SUPPLEMENT TO
INTERNATIONAL
JOURNAL OF
AGRARIAN AFFAIRS

DOUBLE NUMBER 1974–1975

Contributed Papers Read at the 15th International Conference of Agricultural Economists

PAPERS 1–17

Produced by the
University of Oxford Institute of Agricultural
Economics for the International Association
of Agricultural Economists

OXFORD 1975

PRICE £1.50

THE DEGREE OF COMPETITIVENESS IN AGRICULTURAL MARKETING[a]

L. KRISHNASWAMY[b]
Deputy Director (Marketing)
Directorate of Cashewnut Development
M.G. Road, COCHIN-11, INDIA

1. Introduction

It is often asserted that agricultural marketing in developing countries is monopolistic and exploitative. Whether a particular market is reasonably competitive or not is an empirical question which can be answered only by field research. But very few research studies have been completed in developing countries to test this hypothesis empirically. If competitiveness is defined in a meaningful way, it should be possible to identify quantitative indicators of the degree of competitiveness of any market.

In this paper, we shall study three such indicators: (1) the degree of concentration in marketing, (2) the coefficients of correlation between price movements in a large number of markets in a contiguous free trade region, and (3) economies of scale in marketing.

It is obvious that if the absolute number of traders in a market is sufficiently large so that no single trader controls a very large proportion of the turnover of a commodity, it cannot be asserted that trading is highly monopolistic. If the correlation between price movements in a large number of markets is very high, we can infer that the degree of spatial competitiveness is quite high. And if small as well as large trading units earn more or less equal profit on sales and capital, we cannot support the hypothesis of widespread existence of monopoly profit in agricultural marketing.

2. Size Distribution of Trading Units

For the study of concentration in marketing activity, we have estimated the size distribution of all the trading units (commission agents) in the Ganganagar market for the two years 1966-67 and 1967-68, and all the traders of the Sumerpur market for the calender year 1968 - both the markets are in Rajasthan, India. In the case of the Ganganagar market, size has been measured by the volume of foodgrains sold by farmers through the commission agents and in the case of the Sumerpur market, size has been measured by the

---

[a]This paper is based on the Ph.D. Thesis of the author submitted to the University of Rajasthan, Jaipur, India.

[b]The author expresses his thanks to Dr. Raj Krishna, Prof. and Head of the Department of Economics, University of Rajasthan, Jaipur, India, for his guidance in completing this study. The views expressed in this paper are those of the author only and not those of the organisation in which he works.

total value of all agricultural commodities sold by farmers through the commission agents. The commission agents included in this study are the so-called 'kutcha arhtiyas'[1] through whom the farmers sell their produce. The other class of traders, called the 'pucca arhtiyas'[2], are very few in number.

Ganganagar and Sumerpur markets have been selected for the study of concentration because the former is the biggest primary foodgrain market in Rajasthan and the latter is also one of the most important primary markets in the State.

In the Ganganagar market, the relevant data could be collected only in respect of foodgrains but in the Sumerpur market the required information could be collected in respect of all the agricultural commodities traded in the market. The Agricultural Produce Markets Act of Rajasthan (1961) was not implemented in the Ganganagar market during the period of investigation. Therefore, data about the quantities of agricultural commodities transacted by each trader could not be collected from the Market Committee; it had to be compiled from the fortnightly returns which every trader has to file with the District Supply Officer. In the Sumerpur market, the Agricultural Produce Markets Committee was successfully functioning during the period of investigation and the relevant data could be collected in respect of the daily transactions of all traders. In the Ganganagar market 105 kutcha arhtiyas were dealing in foodgrains in the year (April-March) 1966- 7 and 116 in the year 1967- 8.

The frequency and cumulative frequency distributions of 105 trading units in the year 1966- 7 and 116 trading units in the year 1967- 8 in the Ganganagar market have been shown in Tables 1 and 2. The size interval is 500 quintals. In 1966- 7 the average amount of grain handled per unit was 1,283.64 quintals and in 1967- 8, 3,156.95 quintals. This large difference is obviously due to the fact that 1966- 7 was one of the worst drought years, whereas in 1967- 8, grain production was at a record level in India. The size range was found to be very wide indeed from 19 to 8,873 quintals in 1966- 7 and 58 to 21,737 quintals in 1967- 8.

---

[1]The kutcha arhtiya functions as the main link between the producer and the buyer in the wholesale assembling market. He acts as the selling agent for the producer and charges him a commission. The producer brings his produce directly to the market and unloads it at the arhtiya's shop. The arhtiya then auctions the produce to the resident buyers, the pucca arhtiyas. The kutcha arhtiya gives the producer a small advance when he sells the produce and pays the remainder when the pucca arhtiya makes the final payment.

[2]The pucca arhtiyas purchase grains at open auction either on their own account or for non-resident buyers. Generally, their local sales are very small. Their main business is to purchase produce in the market for resale to wholesalers and retailers in other markets. They prefer to work for these non-resident buyers on a commission basis.

Many traders function both as kutcha arhtiyas and pucca arhtiyas.

TABLE 1

QUANTITIES OF FOODGRAINS SOLD BY 105 COMMISSION AGENTS IN GANGANAGAR MARKET IN 1966-67 (APRIL TO MARCH)

Serial No.	Size Class by Amount of Foodgrains Sold in Quintals	Number of Traders	Relative Frequency	Cumulative Frequency Percentage	Amount of Foodgrains in Quintals	Percentage of Amount	Cumulative Percentage
	1	2	3	4	5	6	7
1.	0 - 500	39	37.14	37.14	8613	6.39	6.39
2.	500 - 1000	25	23.81	60.95	18166	13.47	19.86
3.	1000 - 1500	15	14.28	75.23	18869	14.00	33.86
4.	1500 - 2000	6	5.71	80.94	10071	7.47	41.33
5.	2000 - 2500	6	5.71	86.65	13786	10.23	51.56
6.	2500 - 3000	4	3.81	90.46	11196	8.31	59.87
7.	3000 - 3500	2	1.91	92.37	6334	4.70	64.57
8.	3500 - 4000	1	0.95	93.32	3620	2.69	67.26
9.	4000 - 4500	2	1.91	95.23	8191	6.08	73.34
10.	4500 - 5000	-	-	-	-	-	-
11.	5000 - 5500	1	0.95	96.18	5405	4.01	77.35
12.	5500 - 6000	-	-	-	-	-	-
13.	6000 - 6500	2	1.91	98.09	12803	9.50	86.85
14.	6500 - 7000	-	-	-	-	-	-
15.	7000 - 7500	-	-	-	-	-	-
16.	7500 - 8000	-	-	-	-	-	-
17.	8000 - 8500	-	-	-	-	-	-
18.	8500 - 9000	2	1.91	100.00	17724	13.15	100.00
	Total	105	100.00		134783	100.00	

Minimum	19 quintals	Mean	1283.64 quintals
Maximum	8873 quintals	Median	737 quintals

TABLE 2

QUANTITIES OF FOODGRAINS SOLD BY 116 COMMISSION AGENTS IN GANGANAGAR MARKET IN 1967-68 (APRIL TO MARCH)

Serial No.	Size Class by Amount of Foodgrains Sold in Quintals	Number of Traders	Relative Frequency	Cumulative Frequency Percentage	Amount of Foodgrains in Quintals	Percentage to Amount	Cumulative Percentage
	1	2	3	4	5	6	7
1.	0 - 500	13	11.20	11.20	4182	1.14	1.14
2.	500 - 1000	12	10.35	21.55	8881	2.43	3.57
3.	1000 - 1500	12	10.35	31.90	14468	3.95	7.52
4.	1500 - 2000	15	12.93	44.83	25625	6.99	14.51
5.	2000 - 2500	6	5.17	50.00	12684	3.46	17.97
6.	2500 - 3000	11	9.48	59.48	29872	8.16	26.13
7.	3000 - 3500	9	7.76	67.24	28654	7.82	33.95
8.	3500 - 4000	4	3.45	70.69	15135	4.13	38.08
9.	4000 - 4500	9	7.76	78.45	38271	10.45	48.53
10.	4500 - 5000	2	1.72	80.17	9445	2.58	51.11
11.	5000 - 5500	7	6.03	86.20	36861	10.07	61.18
12.	5500 - 6000	2	1.72	87.92	11727	3.20	64.38
13.	6000 - 6500	4	3.45	91.37	25123	6.86	71.24
14.	6500 - 7000	-	-	-	-	-	-
15.	7000 - 7500	3	2.59	93.96	22096	6.03	77.27
16.	7500 - 8000	-	-	-	-	-	-
17.	8000 - 8500	3	2.59	96.55	25008	6.83	84.10
18.	8500 - 9000	-	-	-	-	-	-
19.	9000 - 9500	-	-	-	-	-	-
20.	9500 -10000	-	-	-	-	-	-
21.	Above 10000	4	3.45	100.00	58197	15.90	100.00
	Total	116	100.00		366207	100.00	

Minimum	58 quintals	Mean	3156.95 quintals
Maximum	21737 quintals	Median	2556 quintals

For 1966- 7 it is convenient to distinguish between 'small' traders having an annual business of 1,500 quintals or less, 'medium' traders handling between 1,500 and 4,000 quintals and 'large' traders with an annual business of more than 4,000 quintals. It will be seen from the following summary Table that in the year 1966- 7, 75 percent of the units were small, 18 percent medium-size and only 7 percent were large. Each group handled about one-third of the total turnover. Defining the three groups with cut-off points at 3,500 and 6,000 quintals for 1967-68 so as to divide the total grain turnover approximately equally between them, we observe that 67 percent of the units (small) handled only one-third, 21 percent of the (medium) units handled another one-third, and, at the top, only 12 percent of the units handled the remaining one-third of the total turnover.

TABLE 3

THE DISTRIBUTION OF TRADERS BY DIFFERENT SIZE GROUPS IN GANGANAGAR MARKET

Serial No.	Size Class by Amount of Foodgrains in Quintals	Number of Traders	Relative Frequency	Cumulative Frequency Percentage	Amount of Foodgrains in Quintals	Percentage to Amount	Cumulative Percentage
	1	2	3	4	5	6	7
1966- 7							
1.	Upto 1500	79	75.23	75.23	45,653	33.36	33.36
2.	1500 - 4000	19	18.09	93.32	45,007	33.40	67.26
3.	Above 4000	7	6.68	100.00	44,123	32.74	100.00
1967- 8							
1.	Upto 3500	78	67.24	67.24	1,24,344	33.95	33.95
2.	3500 - 6000	24	20.68	87.92	1,11,439	30.43	64.38
3.	Above 6000	14	12.08	100.00	1,30,424	35.62	100.00

The general picture which emerges is that the overwhelming majority of the commission agents are small-scale units competing for business. There is, of course, some concentration of business in the higher size groups. Thus 5 or 6 percent of the traders were handling about a quarter of the total turnover in both the years. But it is significant that the turnover of either of the two largest traders did not exceed 6.6 percent of the total arrivals in 1966- 7. The turnover of the largest trader in 1967- 8 did not exceed 6 percent and the next three largest traders transacted only 3.7 percent, 3.2 percent and 3 percent of the total arrivals of foodgrains in the market.

It is difficult to describe this small concentration as monopolistic.

TABLE 4

TOTAL SALES OF 73 COMMISSION AGENTS IN SUMERPUR MARKET IN 1968

Serial No.	Size Class by Amount of Sales in Lakh Rupees	Number of Traders	Relative Frequency	Cumulative Frequency	Total Amount in Rupees	Percentage of Total Amount	Cumulative Percentage
	1	2	3	4	5	6	7
1.	Upto 0.5	15	20.55	20.55	350639	1.38	1.38
2.	0.5 - 1	5	6.85	27.40	400387	1.58	2.96
3.	1 - 1.5	6	8.22	35.62	750856	2.95	5.91
4.	1.5 - 2	7	9.59	45.21	1232393	4.84	10.75
5.	2 - 2.5	6	8.22	53.43	1386605	5.44	16.19
6.	2.5 - 3	2	2.74	56.17	563502	2.21	18.40
7.	3 - 3.5	4	5.48	61.65	1277920	5.02	23.42
8.	3.5 - 4	3	4.11	65.76	1137178	4.46	27.88
9.	4 - 4.5	2	2.74	68.50	884976	3.47	31.35
10.	4.5 - 5	5	6.85	75.35	2363970	9.28	40.63
11.	5 - 5.5	6	8.22	83.57	3185138	12.50	53.13
12.	5.5 - 6	2	2.73	86.30	1163479	4.57	57.70
13.	6 - 6.5	1	1.37	87.67	617899	2.43	60.13
14.	6.5 - 7	3	4.11	91.78	2089595	8.20	68.33
15.	7 - 7.5	1	1.37	93.15	721328	2.83	71.16
16.	7.5 - 8	-	-	-	-	-	-
17.	8 - 8.5	1	1.37	94.52	832537	3.27	74.43
18.	8.5 - 9	-	-	-	-	-	-
19.	9 - 9.5	-	-	-	-	-	-
20.	9.5 - 10	-	-	-	-	-	-
21.	Above 10	4	5.48	100.00	6512799	25.57	100.00
	Total	73	100.00		25471191	100.00	

Minimum Rs. 617.00 Mean Rs.3,48,920.00
Maximum Rs.23,03,293.00 Median Rs.2,36,715.00

The concentration curves are charted in Figures 1 and 2. The Lorenz coefficients of inequality[3] turned out to be .55 for 1966-67 and .45 for 1967-68 for the Ganganagar market. This magnitude does not represent a high degree of concentration. It is interesting to note that due to the increase in the number of units and the volume of total arrivals, the coefficient declined in 1967- 8.

In the Sumerpur market, the analysis of the degree of competitiveness in agricultural marketing has been made on the basis of the value of all the agricultural commodities handled by the 73 commission agents in 1968. The total has been computed from the record of daily transactions of each of the 73 trading units. The frequency and cumulative frequency distributions of 73 trading units in the year 1968 in Sumerpur market have been shown in Table 4. The average amount of turnover handled per unit was Rs.3,48,920.00. The size range was found to be very wide; Rs.617.00 to Rs.23,03,293.00.

In the Sumerpur market defining the 'small' traders as those having a turnover of Rs.4.5 lakhs or less, 'medium' traders as those having a turnover between Rs.4.5 lakhs and Rs.7 lakhs and 'large' traders as those with an annual business of more than Rs.7 lakhs, we observe that in the year 1968, about 69 percent of the (small) units handled about one-third, 23 percent of the (medium) units handled another one-third, and, at the top, only 8 percent of the units handled the remaining one-third of the total turnover (See Table 5).

TABLE 5

THE DISTRIBUTION OF TRADERS BY DIFFERENT SIZE GROUPS IN SUMERPUR MARKET IN 1968

Serial No.	Size Group by Amount of Sales in Lakh Rupees	Number of Traders	Relative Frequency	Cumulative Frequency	Total Amount in	Percentage of Total Amount	Cumulative Percentage
	1	2	3	4	5	6	7
1.	Upto 4.5	50	68.50	68.50	7984456	31.35	31.35
2.	4.5 to 7	17	23.28	91.78	9420071	36.98	68.33
3.	Above 7	6	8.22	100.00	8066664	31.67	100.00

Thus in the Sumerpur market also, the overwhelming majority of commission agents are small-scale units competing for business. There is,

[3]Lorenz coefficients of inequality were measured by using the formula

$$L = 1 - \sum_{i=1}^{n} (P_i - P_{i-1})\ (Q_i + Q_{i-1})$$

where P_i is the cumulative proportion of traders upto the i^{th} class and Q_i is the cumulative proportion of transactions upto the i^{th} class and n is the total number of size classes (M. Mukherjee, National Income of India Trends and Structure, Statistical Publishing Society, Calcutta, 1969, p.324).

again, some concentration of business in the higher size groups. Thus 5 or 6 percent of the traders were handling about a quarter of the total turnover in the Sumerpur market as in the Ganganagar market. But it is significant that the turnover of the largest arhtiya was just 9 percent and the next three largest traders transacted only 7.8 percent, 4.7 percent and 4 percent of the total turnover.

For the Sumerpur market also we cannot conclude that this concentration is monopolistic. The concentration curve for the Sumerpur market is charted in Figure 3. The Lorenz coefficient of inequality turned out to be .51 for the year 1968 for the Sumerpur market. This magnitude does not indicate a high degree of concentration.

The foregoing analysis leads us to conclude that in the markets studied, agricultural marketing is fairly competitive.

It is, of course, possible that some of the trading units treated in this analysis as separate units might be mutually related and/or have collusive agreements. It is nearly impossible to get any reliable information on such relationships and agreements. But it is highly unlikely that in the presence of a large number of small and medium units, competing among themselves in open auction sales, such arrangements would seriously impair the general competitiveness of a market.

We may note here that our results about the competitiveness of agricultural marketing have confirmed the results of other empirical studies of agricultural marketing by Ralph W. Cummings[4] and Uma J. Lele,[5] although these authors did not measure size distributions of trading units and the degree of concentration of turnover.

3. Spatial Competitiveness

The competitiveness of agricultural marketing has also been examined by another method.

In pure price theory, an important criterion of the competitiveness of a market over a geographical region is the uniformity of the price (net of transfer costs) of a homogenous commodity in different parts of the region. This criterion also implies that price movements over time in different parts of a free trade area should be highly correlated. Thus the degree of correlation

---

[4] R.W. Cummings Jr., (1967) Pricing Efficiency in the Indian Wheat Market. New Delhi, Impex India,

[5] Uma J. Lele, (1968) The Traders of Sholapur in Developing Rural India, Plan and Practice, New York, Cornell University Press,

between the movements of the price of the same commodity in different markets of Rajasthan should be a good indicator of the degree of competitiveness of agricultural marketing in this region.

We have, therefore, estimated coefficients of correlation between price variations over a period of 96 months (April 1962 to March 1970) in 31 important wheat markets, 31 important gram markets and 15 important bajra markets in Rajasthan. It should be noted that each coefficient has been derived from 96 paired observations on prices in paired markets.[6] The total number of coefficients estimated is 1035. All the coefficients have been shown in Table 6.

TABLE 6

CORRELATION COEFFICIENT MATRIX OF AVERAGE MONTHLY PRICES
(APRIL 1962 - MARCH 1970)

Correlation Coefficient		Wheat	Gram	Bajra	Total
1		2	3	4	5
Above	.90	456	456	92	1004
Between	.80 - .89	1	9	10	20
Between	.70 - .79	-	-	3	3
Below	.50	8	-	-	8
Total		465	465	105	1035

Minimum Correlation Coefficients

Gram	.87
Wheat	.82 except 8 cases in Tonk explained in the text.
Bajra	.75

It can be observed that in 1004 out of 1035 cases, the correlation coefficient exceeds .90, in 20 cases, the coefficient lies between .80 and .89 and in 3 cases the coefficient lies between .70 and .79. The results in the Table provide a striking confirmation of the spatial competitiveness of grain marketing in Rajasthan (India).

[6] In some markets price data were not available for one or more months. These missing observations as well as the corresponding observations in the paired market were omitted in deriving correlation coefficients.

The monthly prices used are the averages of the modal prices for all the Fridays of each month in each market.

The 8 coefficients of correlation below .4 are observed when wheat prices in one market viz. Tonk are correlated with wheat prices in other markets. These exceptional results are perhaps due to the fact that all the price quotations used in calculating the coefficients are quotations for superior wheat varieties but in the Tonk market transactions in these varieties are negligible.

In the case of bajra, there is not a single correlation coefficient below .75. In the case of gram, not a single correlation coefficient is below .37. These results also confirm that agricultural markets are fairly competitive in this region.

4. Economies of Scale in Marketing

The competitiveness of agricultural marketing in Rajasthan has also been examined by studying the variation in marketing costs caused by changes in the scale of turnover in two important markets viz. Kota and Sumerpur. Data on each item of cost incurred by 22 wholesale traders in the Kota market (20 percent of the total number of traders) and 28 wholesale traders in the Sumerpur market (30 percent of the total number of traders) relating to the year 1966-67 have been collected in direct interviews. Data on annual sales, working capital, gross income, cost of operation and net profit have been collected from every wholesaling establishment. Naturally a large number of traders refused to cooperate in giving the required information. Therefore, the following inferences are based unavoidably on the basis of the information carefully collected from those wholesale traders who cooperated in the survey; but the information does yield some interesting results. Table 7 shows four important ratios for each size class; working capital to sales, cost of operation to sales, net profit to sales and net profit to working capital.

TABLE 7

RATIOS OF CAPITAL, COST AND NET PROFIT TO SALES AND NET PROFIT TO WORKING CAPITAL KOTA MARKET IN 1966-67

Annual Sale Group (Rs. lakhs)	Number of Firms	Percent of Average			
		Working Capital to Average Sales	Cost of Operation to Average Sales	Net Profit to Average Sales	Net Profit to Working Capital
1	2	3	4	5	6
5 - 10	10	13.58	1.26	1.54	11.31
10 - 15	4	14.93	1.30	2.12	14.19
15 - 20	3	7.76	0.98	1.50	19.30
20 - 25	2	10.63	0.96	1.69	15.94
25 - 30	1	21.19	0.89	2.29	10.82
Over 30	2	9.24	0.69	1.42	15.43
Overall	22	12.07	1.01	1.38	13.92
		SUMERPUR MARKET IN 1966-67			
5 - 10	9	11.56	0.91	2.02	17.54
10 - 15	10	12.88	1.17	1.05	8.21
15 - 20	4	11.26	0.51	1.42	12.66
20 - 25	3	5.95	0.81	1.19	20.11
25 - 30	1	11.03	0.81	2.03	18.40
Over 30	1	12.62	0.45	3.01	23.88
Overall	28	11.00	0.87	1.55	14.09

The clearest evidence of economies of scale is provided by the behaviour of the ratio of the cost of operation to sales in both the markets. The unit cost declined continuously from 1.30 percent to 0.69 percent for establishments with a turnover of Rs.10 lakhs to establishments with a turnover exceeding Rs.30 lakhs in the Kota market, and from 1.17 percent to 0.45 percent for establishments with a turnover of Rs.10 lakhs to establishments with a turnover exceeding Rs.30 lakhs in the Sumerpur market. However, the unit cost does rise a little between the two smallest size-groups in both the markets.

The ratio of working capital to sales shows no clear tendency to rise or fall with scale. This is partly due to the fact that in marketing, the composition of working capital is extremely heterogenous and erratic. Some traders rely much on their own capital, others operate on more borrowed funds which fluctuate from month to month.

The return to working capital is reflected in the ratio of net profit to working capital. It turns out to be 14 percent for all traders in each of the two markets. But again there is no clear trend for the profit ratio to increase or decrease with turnover.

A resurvey on economies of scale in marketing was conducted in the Sumerpur market during the year 1970. Data was collected for the year 1968-69 from 28 wholesale traders[7] (25 percent of the total number of traders in the market) who cooperated in giving information. The unit cost again showed a tendency to fall as size increases from 2.44 percent to 0.67 percent for establishments with a turnover of Rs.10 lakhs to establishments with a turnover upto Rs.25 lakhs. The unit cost was the maximum (3.79 percent) for the smallest size-group. For the one establishment having a turnover exceeding Rs.30 lakhs, the unit cost was 1.27 percent. The return to working capital turned out to be 13.60 percent which is close to the rate revealed in the previous surveys. Again there was no clear trend for the profit ratio to increase or decrease with turnover. The ratio of net profit to sales (1.13 percent) was also comparable with the figures for other samples.

These results only permit the following inferences:

Unit operating cost falls as turnover increases but there is no significant tendency for the profit-sale ratio or the profit-capital ratio to increase or decrease with turnover. In other words small as well as large operators are equally likely to earn a profit of about 1.6 percent on sales and 14 percent on working capital.

Once again, these profit ratios (less than 2 percent on sales and about 14 percent on working capital which includes funds borrowed on market rates for interest) do not support the hypothesis of the widespread existence of monopoly profit in agricultural marketing.

---

[7] All of them are not the same as in the original survey.

5. Policy Implications

Our empirical findings yield a number of important policy conclusions:

1) It is clear that the commonly alleged existence of monopoly in agricultural marketing in developing countries should not be taken for granted a priori.

Its existence should be established by detailed empirical studies of the marketing of each commodity in each region. Where its existence is established, the Government should increase the degree of competitiveness by promoting co-operative marketing or marketing by government corporations. But where a fair degree of competitiveness is revealed by empirical studies, as in Rajasthan (India), only market regulation may be sufficient to improve the marketing system. In many developing countries producers and/or consumers are regularly cheated because the different varieties of a commodity bought and sold by the traders are not graded and certified (labeled) properly. Therefore, the government must administer a grading and certification service for all important agricultural commodities on a voluntary or compulsory basis.

2) At the present stage of development of marketing, the existence of a large volume of disguised unemployment in the marketing sector keeps profit margins equally low in small and large units. The large number of small traders successfully compete with the large traders whose unit marketing costs are lower, because their willing to accept low incomes as an alternative to unemployment. The potential economies of scale in marketing will lead to the emergence of larger units of marketing and the decline of small units only when the demographic pressure in the marketing sector is reduced as the economy approaches fuller employment.

LORENZ CURVE SHOWING THE CONCENTRATION OF TURNOVER OF FOOD GRAINS IN GANGANAGAR MARKET (APRIL 1966 To MARCH 1967)

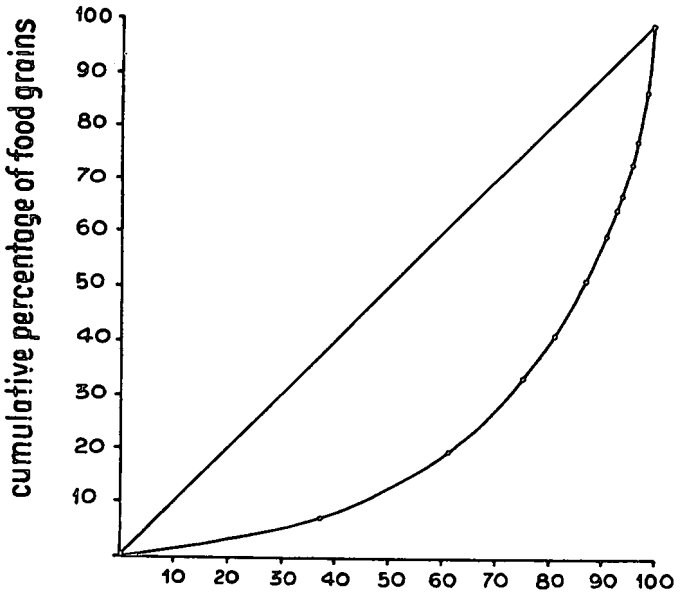

Fig. 1.

LORENZ CURVE SHOWING THE CONCENTRATION OF TURNOVER OF FOOD GRAINS IN GANGANAGAR MARKET (APRIL 1967 To MARCH 1968)

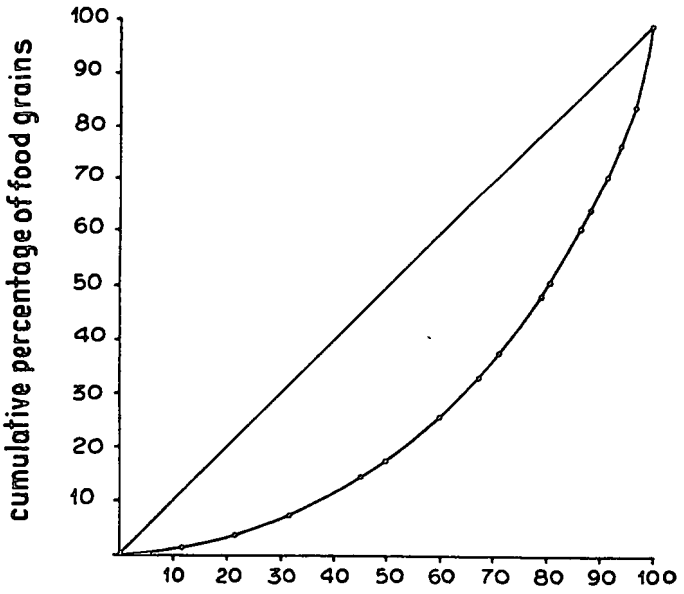

Fig. 2.

LORENZ CURVE SHOWING THE CONCENTRATION OF TOTAL SALES IN SUMERPUR MARKET (1968)

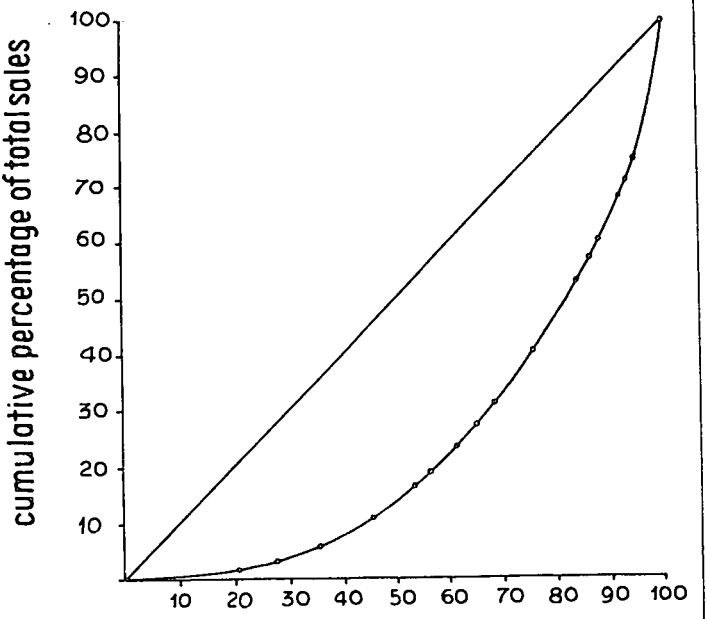

Fig. 3