An Emprical Evaluation of Food Corporation of India (1976 - 85)

BY

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Introduction

I INTRODUCTION

Adequate availability of foodgrains, both in quality and quantity, equitable distribution and availability of supplies at reasonable prices have been the principal objectives in India's overall economic development. However, the vastness of the country coupled with a large population belonging to different socio-cultural groups having varied food habits and the year-to-year fluctuations on food production makes the problem quite complex. This is why the food problem has invited constant attention and concern at all levels. Even prior to the independence, the Government was aware of the need for ensuring adquate supply of food at reasonable prices and since world war II, the Government has been actively intervening in the food-grains trade in India.

The food distribution programme assumes immense importance when viewed in the context of alarming rise in population on the one hand, coupled with year-to-year fluctuations in food production on the other. About 60 per cent of India's population has very meagre purchasing power and this segment spends about 80 per cent of their income on food only. During periods of food shortage, when the prices tend to rise disproportionality, it is this section of the people who is most affected.

Traditionally, the private sector has played a dominant role in the marketing and distribution of food grains in India. But, unfortunately, this sector had often indulged in grossly speculative activities, creating stage-managed imbalances in foodgrains marketing and causing unavoidable hardship to the vulnerable sections of the population. In order to protect the interests of both the consumers and producers, the need was felt for an viable organisation with an All-India Spread, developing overtime its own expertise to buy, make, store, handle and distribute millions of tonnes of grains to its teaming millions.

Accordingly, the Food Corporation of India (FCI) was established under the Food Corporation of India Act 1964 and started functioning as a public sector undertaking of the Government of India from January 1965. The primary responsibility assigned to the corporation was "to undertake the purchase, storage, movement, transport, distribution and sale of foodgrains and other food stuffs". The copporation, thus, was expected to function as a major instrument in securing the following objectives, namely.

a. to acquire or procure on behalf of central and state Governments a sizeable portion of the marketable surplus at a reasonable price from the farmers;

b. to ensure the timely release of stocks through the public distribution systems so that the consumer price do not rise unduly;

c, to minimise excessive seasonal price fluctuations and reduce inter-regional price variations; and

d. to build up a sizeable buffer stock of foodgrains with internal procurement and imports.

To achieve these objectives, the corporation has undertaken the procurement of foodgrains after the harvest to ensure reasonable prices for the producers, the transport of foodgrains on a large scale to various parts of the country and storage of procured stocks for their gradual release through the public distribution system round the year to ensure fair prices for the consumers. The corporation has also been entrusted with the responsibility of handling imported foodgrains and fertilizers at various major and minor ports in the country and moving these stocks to the areas of consumption. Further, to meet the challenges of perpetual shortages and to avoid dependence on large-scale imports, the corporation was also entrusted with the responsibility of building buffer stock. Recently, the corporation has diversified its activities by making in roads into rice milling and food processing activities.

Thus, making modest beginning in the four southern states in 1965, the corporation has enlarged its activites throughout the country and acquired a commanding position in the foodgrain trade. Its operational net-work includes four

zonal offices, 19 regional offices, 4 port operation offices, 142 district offices, 2200 storage points, 130 quality control laboratories and thousands of purchase centres during procurement seasons.

In recent years, the corporation has also vastly expanded its activities, in terms of its operational activities. The amount of foodgrains procured by the corporation increased from 81 lakh tonnes in 1970-71 to 190.97 lakh tonnes in 1984-85. The total turnover increased from Rs.1413 crores in 1970-71 to Rs. 4390 crores in 1984-85. Other significant achievements were:

a. Storgage capacity which was 78.49 lakh tonnes in 1970-71 increased to 224.9 lakh tonnes in 1984-85;

b. Sales by the corporation increased from 20.96 lakh tonnes in 1976 to 57.71 lakh tonnes in 1985;

c Stocks with the corporation increased from 19.34 lakh tonnes to 27.4 million tonnes in 1984-85; and so on.

Despite these achievement, the working of the FCI is not free from criticisms. Some of the criticisms levelled against FCI are corrupt practices and vested interest in its procurement operation, improper utilisation of its storage capacity, loss of food grains due to faulty movement and pilferage, high incidentals, heavy overhead charges, enormous subsidy etc. However, it is felt that if some of these shortcomings are removed, the FCI can play a vital role

in protecting the interest of both producers and consumers.

The purpose of the present study is to evaluate the performance of the FCI in promoting the interest of both consumers and producers and assess how far the FCI has been successful in fulfilling the social responsibility placed before it. Thus, the main objectives of the study are to

1. evaluate the financial viability of the FCI in terms of their asset-liability structure, sales turnover, gross income, expenses, net profit etc.
2. assess the role of the FCI in respect of its operational practices like procurement, buffer stock, storage, internal distribution, exports and movement of foodgrains; and
3. identify the factors that influence the procurement policy of the FCI.

Limitations of the Study:

The study has, however, been subject to certain important limitations. Firstly, since the study is based on secondary data, the reliability of the result will depend on how precise and accurate the secondary data is. Secondly, due to the non-availability of adequate informations, the study fails to throw light on cost of operations of buffer stocks, price structure, FCI operation in sugar trade, fertilizer and so on. But inspite of these constriants, the study does focus attention on certain important aspects of FCI operations and provides scope for further research in future.

Review of Literature

REVIEW OF LITERATURE

The review of literature for the present study is discussed under the following heads:

i) Role and achievements of FCI in food trade in India; and

ii) Operational efficiency of FCI

ROLE OF FCI:

Majumdar (1965) discussing the role of the FCI have not only questioned the necessity of such a system but also doubted the administrative ability of the corporation in future since it failed to bring the seasonal and regional price variations to the minimum which could been realised under conditions of market integration.

Adhvarya (1968) observed that to meet the needs of interstate movement of foodgrains under the zone system, government agency like F.C.I is the best arrangement service, since it can yield further advantage by way of reduction in the cost of handling the movement of foodgrain with a consequent reduction of price to the consumer.

Hota., N.R. (1971) while discussing about achievements of the FCI stated that the "Indian farmer is now assured of a buyer for his produce as a result of the activities of the Food Corporation of India. In the rabi season 1970-71,

the corporation purchased the one million tonnes of wheat, principally in Punjab and Uttar Pradesh and took over about 2.18 million tonnes of wheat procured by the State Government or their cooperative marketing federations,principally in Punjab and Haryana. The farmers were paid incentive prices. During the Kariff season 1970-71 the corporation had, till the end of March 1974 purchased over 1.35 million tonnes of rice (including paddy in terms of rice) directly and taken over another 0.9 million tonnes of rice procured by state government or their other agencies. The new prosperity thus created has helped the farmers to mechanise agriculture, dig more tube wells and have a better living generally".

Nine Roy (1979) evaluating the role of FCI observed that "making a modest beginning in the few southern states in 1965, it has enlarged its activities through out the country & acquired a commanding position in the food grain trade". The corporations activities spread over a wide spectrum from food procurement, storage, movement, distribution, its operational net work includes 130 district offices, 2200 storage points, 130 quality control laboratories, 5 post clearance units and 1000 of purchase centres during the procurement seasons. The FCI is sparing no efforts to implement the Government of India's

social objectives of providing a remunerative price to the producer and ensuring foodgrains at a fair price at all times to the consumer.

Ramachandran (1979) stated that " In the food economy of the country, the corporation is required to play a key-role by providing adequate incentives to the producers, ensuring fair and orderly marketing of agricultural produce and safeguarding the interests of the consumers by making available to them food grains at reasonable prices all through the year. During the last few years when the prices of goodgrains in the open market rose sharply due to inflationary pressures and anti-social activities of the trade, the distribution of food-grains and other essential commodities through the fair price shops by the corporation and other public agencies has by and large helped in protecting the interest of the consumer".

Birla Institute of Scientific Research (1980), while discussing the operational working of the FCI observes that "the FCI is a huge monolithic organisation with a wide net-work of departments, agencies and agents spread all over the country. It employs directly or indirectly more than a lakh of persons and its transactions run to over Rs.2000 crores. All this by itself places the corporation in a position of great responsibility and authority and at the

same time provides it with an unparalleled opportunity to carry out the polices ~~of~~ in a vital and sensitive area, namely food for the people. During all these years of its existence the FCI has to a great extent succeeded in the basic objectives of government's policy namely to procure foodgrains at prescribed prices and make them available to the consumers. The FCI can take credit in this achievement".

The Annual Report (1981-82), high lighting the role of FCI, pointed out that "FCI has emerged as the effective instrument of the government of India in implementing the food policy objectives of (i) self sufficiency, (ii) assuring the supply of adequate food grains in all parts of the country, with special emphasis on safeguarding the interests of the low income consumers along with price stability, and (iii) assuming reasonable and incentive prices to the producers. In short, FCI is the instrument for implementing the food policy objectives and building the national food security system".

Joginder Nath Sarid(1981) while discussing the food grain availability observed that the FCI is charged with a tremendous responsibility indeed not only in providing proper storage/handling of food grains to cut down the losses through out the country but also for looking after the interest of both the farmers and the consumers, as well to the farmer in offering a ready market for his produce and providing

a reasonable price for the grain without being exploited by the middlemen and to the consumers by arranging a regular supply of grain throughout the year at uniformly lower rates than those prevailing in the market.

Amin, B.R. (1981), while discussing the prospects for foodgrain procurement in India stated that "despite the fact that the year 1980-81 was preceded by mass crop failures on account of severe drought situations in the country during 1979 there has been an encouraging outlook on the food production front in the country in 1980. India is still far better in food situation inspite of natural reverses, than many countries in Asia and Africa. The credit to this goes rightly to the farmers of the country. FCI has also kept up its commitment of procuring the marketed surples and in that the current fincncial year may be marked, in line with the earlier years as a year of fulfilment".

Ramachandran (1982) remarked "FCI was performing a gigantic task which was certainly singular in its character in the world. FCI was strongly bound to the economy of the nation and the daily living of people. It is also a sheet anchor for stabilising prices in the country". Further he states that "the primary objective of the corporation for the current decade was to build such a large buffer stock of grains that even two successive crop failure should not affect availability of food".

The Central Training Institute(1982) in its paper, lists several achievements to the credit of FCI like

(i) "it has attained the capacity for nation-wide operations in foodgrains and thus become a force to reckon within the foodgrains trading circles. It has already reached commanding heights in the trade as, envisaged for it by the government of India some years back; (ii) it protects the producers the vulnerable sections of consumers by making supplies available to the fair price shops regularly; (iii) It has helped in minimising inter-seasonal and inter-regional price variations, thereby injecting some stability in foodgrains prices in the country; (iv) the FCI has encouraged regulation of food processing activities. It has been the initiator and pace-setter in the modernisation of the rice milling industry. It has also acted as a catalyst in other agro-processing areas, viz., dal-milling and rice-bran oil extraction. It has been able to improve the quality of such processed food items by its quality control measures, (v) it has tried to protect the vulnerable sections of consumers by making supplies available to the fair price shops regular; and (iv) above all, it is no mean feet to mop up the surplus grains from producing areas to store them effectively and make them available to deficit pockets of the country in time and at the least possible cost".

Sankaran (1982) pointed out that FCI aims at providing the farmers an incentive price for his produce and supply food grains to the consumers at reasonable prices by implementing the

price policy of the government. It undertakes buffer stock operations (ie) buying foodgrains in surplus regions and storing or supplying to deficit regions. With 4 zonal offices, 14 regional offices and 130 district offices, the FCI maintains a strategic network of 600 storage centres in the country to serve the rich and poor, and to coordinate the surplus and deficit states.

Kahlon and Tyagi (1983) observes that"the establishment of the FCI in 1964 to undertake the purchase and distribution of foodgrains and the setting up of the Agricultural Price Commission (APC) in 1965 to advise the government on a continuing basis on price policy for envolving an integrated price structure in the context of the need for raising the production and to protect the consumer, marked the beginning of the era of a positive agricultural price policy".

India: A reference Annual (1986), highlighting the role of FCI, observes that "the FCI serves the nation in the vital areas of foodgrain procurement, storage and distribution, protecting the interest of both the farmers and the consumer. The corporation has an annual turn over of around Rs.10,390 crore during 1985-86. During this period the total purchases were 209 lakh tonnes of foodgrains, sugar etc, and total sales were

219 lakh tonnes".

OPERATIONAL EFFICIENCY:

R.N. Chopra (1975) argues that since its inception FIC has performed remarkably well in the field of procurement. imports, transportation, storage, distribution, food processing etc. Keeping in view the need for utmost economy on matters relating to administrative costs, handling and storage charges and incidence of interest on loans, efforts are being made by it from time to time to keep its expenditure to the barest minimum. The procurement charges and handling charges are kept to the minimum, some of the other measures taken to reduce expenditure are streamlining of the cash management system, reduction in the incidence of medical expenses, overtime allowance and recovery of outstanding debts from the state governments. Thus, "the corporation has spare no efforts to effect improvements in its operations to secure the social objectives of the state policy and to serve the consumer and producer ever before".

Dutt (1977) stated that "the FCI along with other public agencies has, during the current marketing year, procured nearly 13 million tonnes of foodgrains. The bumper harvests in 1975-76 and the easy availability of foodgrains all over the country have brought about a sharp decline in drawals from the public distribution system enabling the Food Corporation of India to

built up a record level of stock of over 13.50 million tonnes. For the first time, India is seriously considering builting up of a sizeable buffer stock on a continuing basis. This has been an important achievement in the food procurement and distribution programme in India in recent years".

Pareshnath Chatterjee (1977) argues that the alarming proportion of increase in the subsidies over the last several years does not appear to have attracted the attention it deserves. Heavy subsidiation by the government has spelt indifference on the part of the FCI and of those in charge of the public distribution system in managing their affairs in such a manner that would minimise the gap between procurement prices and issue prices. The major factors according to him responsible for the increase in subsidies are the indifferent storage facilities avaiable in the FCI godowns including mishandling of the foodgrains. Further, a highly hiearchical structure of organisation, political overtones in the operations of the corporatiob, giganticity of the task the corporation has been asked to perform and the procedure bound bureaucratic practices have tended to come in the way of streamlined operations.

Vipin K.Garg (1980) in his study"State in Foodgrain Trade in India" has attempted to evaluate the working of the public distribution system of foodgrains, with special reference

to FCI. He has highlighted the failure of the latter to attain commercial viability during the last fifteen years of its functioning inspite of the margin that government allows it and some other methods the corporation adopts to add to these margins. In 1977-78 alone, the corporation incurred a huge dificit of Rs.565.67 crores which was covered by the cash susbidy of an equal amount given by the government. In effect, costs of the operations of the FCI was so high that a mark-up of 90 to 95 per cent between the purchase and issue prices of wheat is needed by the FCI. He comes to the conclusion that the government should take appropriate steps to restore to the FCI its commercial character and bring under control the present high cost of the public distribution system so that the present heavy burden of subsidies on the nation is reduced and its benefits may in reality reach the producer and the consumer.

While discussing the operational working of the FCI, a study conducted by Birla Institute of Scientific Research (1980) concludes that the foodgrain trade in its hands has become in-ordinately expensive and uneconomic. The costs incurred in the purchase, sale and storage of foodgrains, infact are so exhorbitant, that they can be met only by allowing the corporation a mark-up of about 90 to 95 per cent. This is much higher in comparison to the trade margins which were considered unreasonable and highly explcitative. The consequence is that the nation has to bear

these high costs by providing subsidies on an increasing scale from year to year.

Talwar (1981) commenting on the foodgrain movement, stated that "the FCI is fully geared to accept still greater challenges and establish further records in the matter of movement in the months and years to come".

Sarid (1981), while discussing storage accommodation, pointed out that "assuming that the entire buffer and operational stocks are required to the handled by the corporation, the storage capacity requirement will workout to 20.8 million tonnes. If we take into consideration the average of operational stocks as against the peak of 1st July possibly the dimensions of stock level will be settled at 20 Million tonnes. Increasing foodgrain production and the consequent building up of the bufferstocks have also proved considerable strains on our existing methods of storage handling. The growing grain production in the northern states is leading to increasing levels of procurement. Unmatching outward rail movement also tends to cause serious pressures on our available covered storage capacity compelling us to avoid unscientific form of open (CAP) storage of goodgrains. In view of these pressures it has becomes essential for the FCI to concentrate on steps to be taken to alleviate storage constraints".

The Central Training Institute (1982) evaluating the performance of FCI, points to the various constraints and difficulties faced by the corporation in the performance of its activities. These constraints are (i) "corporation has to operate under the overall policy of the government of India. It has no power to decide matters of policy, like the fixation of procurement and issue prices; (ii) the real venues of the FCI's functioning are the states which follow independent policies in the matter of procurement etc. There is no uniformity in the outlook of the states; and (iii) the activities of the FCI are spread all over the country as such the geographical distances coupled with gigantic operations put spatial and organisational constraints on the smooth working of the FCI".

Sankaran (1982), while evaluating the working of the FCI points out that " the FCI is utterly incompetent to deal with the singularly significant task entrusted to it. Since its inception the corporation has failed in achieving its production target. Apart from this heavy overhead charges, high incidentals, enormous subsidy, shady dealings, indiscipline among its staff, consumption etc. present a very poor and dismal picture of FCI.

Kahlon and Tyagi (1983) evaluating the role of FCI in Foodgrains Trade observes that "the rising operational costs of the FCI and the losses sustained in its purchases and sales of food-

grains over the years are a matter of serious concern. "They further points out that the FCI has proved to be a very expensive agent and that its costs of procuring, moving and handling grains are much in excess of what obtains in the private trade.

Bhayabat Misra (1985) evaluating the role of FCI in Orissa pointed out that "although the FCI in Orissa has rendered a commendable service in matters of procurement, public distribution, storage and export of rice, it has operated under a number of constraints which affected its smooth functioning in the state. Firstly, though the corporation worked as a state unit it operated under the overall policy of government of India and had no power whatsoever, in fixation of procurement and issue prices of foodgrains. Secondly, whether the corporation would continue as an agent for the procurement operation as well as distribution of foodgrains depended much on the whims of the State Government. Lastly, the hetrogenity of the staff causes inefficiency and lethergy in the normal working of the corporation,".

It is , thus, seen that almost all studies, except for a few, have highlighted the shortcomings of the FCI in meeting the requirements of both producers and consumers. But these studies concentrates on certain important operational practices of the FCI. The present study is more comprehensive in the sense that in throws light on not only on the operational practices of FCI but also undertake a review of the financial aspects of

FCI so as to see how for the FCI have been successful in promoting the interest of the nation.

Methodology

METHODOLOGY

The methodology for the present study has been discussed under the following heads:

1. Selection of the sample
2. Data base of the study
3. Tools of analysis

1. Selection of the sample:

The study concentrates on analysing the role of FCI in promoting the interest of both the consumers and producers. Hence the data pertaining to the study is taken at the aggregate level to analyse how far the FCI has fulfilled the objectives laid before it.

2. Data base of the study:

For the analysis, a period between 1976 to 1985 was taken. The entire data being secondary in nature was collected from FCI publications like "Statistical Panorama" and "Annual Reports".

3. Tools of Analysis:

The data collected were arranged and tabulated for giving precise and concise information.

Further, the following tools were ap-lied to analyse the data.

1. Compound growth rate formula :

$$p_n = p_o (i + r)^t$$

was used to estimate the growth rate in certain important variable like assets, liabilities etc.

2. Exponential growth function of the form

$$Y_t = Ab^t$$

Where Y_t is the variable under study, t the time variable and the growth co-efficient, $g = (b - 1) \times 100$, was computed to estimate the trend factor in certain important variables like procurement, net profit etc.

3. Ratio analysis:

The following ratios were computed to analyse the profitability and operational efficiency of the FCI:

i) Current ratio or solvency ratio is also called the working capital ratio. It is defined as:

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current liabilities}}$$

It shows the short term financial strength. It is contended that for commercial concerns the current ratio should be 2:1 (i.e) current assets should be twice the the current liabilities to provide a very safe margin to meet commitments.

ii) Current liabilities to net worth is defined as

$$\text{current liabilities to net worth} = \frac{\text{Current liabilities}}{\text{Net worth}}$$

It indicates the extent to which the total indebtedness of the concern exceeds or falls short of its net worth.

iii) Net profit ratio is defined as:

$$\text{Net profit ratio} = \frac{\text{Net profit}}{\text{Net sales}}$$

High net profit ratio is a welcome sign as against low net profit rates.

iv) Returns on total resources :

This ratio may be determined by finding out relationship between net profit to the total resources employed in the business (i.e)

$$\text{Returns on total resources} = \frac{\text{Net profit}}{\text{Total assets}}$$

High ratio will indicate better management performance.

v) Gross profit ratio :

Gross profit to turn over ratio is computed as follows:

$$\text{Gross profit ratio} = \frac{\text{Gross profit}}{\text{Net sales}}$$

The low gross profit ratio may reflect unfavourable purchasing power, inability of the management to reach optimum level of sales and so on. On the otherhand, high gross profit ratio reflect efficiency of management in obtaining favourable purchasing and selling terms, reaching targeted sales etc.

4. Simple and multiple regression : Analysis:

This analysis was used to study the relationship between important variables studied.

Apart from this, percentages were computed for the purpose of comparing and analysing the datas.

Results and Discussion

RESULT AND DISCUSSION

The result of the present study are presented and discussed under the following broad heads:

I. Analysis of the profit and loss account of the FCI and

II. Operational practices of the FCI.

I Analysis of the profit and loss account of the FCI

The financial review of any concern has become very significant since it helps one to understand whether the business concern is progressive or not, whether it is financially sound, whether it is able to meet its commitments, whether there is any sign of growing weakness and if the financial standing of the business is weak, whether there are any chances for improvements. The answers to these question can be found by analysing the data contained in the profit and loss account. In the present study the financial position of the FCI have been evaluated under the following heads.

A. Analysis of the individual items of the balance sheet to examine their trends ; and

B. Interpretation of the balance sheet through ratio analysis.

A. Analysis of the individual items of the balance sheet to examine their trends:

A. 1 Liabilities:

The funds derived from different sources constitute the

liabilities of the concern since the act of receiving all these funds except reserves, creates a corresponding liability on the concern to repay the same on demand to those who own these funds. Table I shows the liability side of the financial statment of the FCI over the yeafs.

TABLE I

COMPONENT WISE BREAK UP OF THE TOTAL LIABILITIES

Year	Capital	Reserves	Secured loans	Unsecured loans	Current liabilities	Provision for taxation	TOTAL
1976	65.16 (9.92)	2.88 (.44)	182.01 (27.72)	214.00 (32.59)	191.27 (29.13)	1.34 (.20)	656.66
1977	76.38 (8.48)	5.26 (.58)	293.52 (32.61)	264.0 (29.33)	258.9 (28.76)	2.15 (.24)	900.20
1978	82.86 (10.94)	41.48 (5.48)	248.22 (32.78)	156.81 (20.71)	225.32 (29.75)	2.62 (.35)	757.32
1979	92.87 (13.90)	26.61 (3.89)	106.93 (16.00)	183.22 (27.41)	254.62 (38.10)	4.69 (0.7)	668.34
1980	203.22 (11.46)	16.08 (0.91)	1082.14 (61.01)	206.99 (11.67)	262.11 (14.78)	3.29 (.19)	1773.84
1981	250.45 (10.47)	12.94 (.54)	1461.49 (61.10)	273.32 (11.43)	386.81 (16.17)	6.95 (.29)	2391.96
1982	261.21 (8.74)	13.66 (.46)	1924.30 (64.36)	314.07 (10.50)	475.55 (15.91)	1.15 (.04)	2989.94
1983	248.13 (8.45)	15.20 (0.52)	2003.34 (68.2)	245.27 (8.36)	422.19 (14.37)	3.28 (0.11)	2937.41
1984	277.66 (6.09)	17.38 (0.33)	3480.67 (76.36)	330.51 (7.25)	445.71 (9.78)	6.47 (0.14)	4558.40
1985	307.51 (5.38)	20.04 (0.35)	4553.04 (79.62)	330.36 (5.78)	500.21 (8.75)	7.47 (0.13)	5718.62
Compound growth rate	16.78	21.41	37.98	4.44	10.09	18.75	24.16

From the above table it is evident that the bulk of the FCI's liability consists of secured loans followed by current liabilities, unsecured loans, and capital, with reserves making a negligible contribution to total liability. The significant contribution of secured and unsecured loans to total liability structure high lights the increasing financial dependence of the FCI on borrowed loans for carrying out its operations.

A comparison of compound growth rate indicates that the rate of growth of secured loans have been much faster than that of reserves, capital etc, once again reinterating the financial dependence of the FCI. Hence, in the interest of the development it is essential that FCI tries to built up its reserve and capital position so as to reduce its dependence on borrowing, which is inflationary in character.

A. 2 Assets:

The items reported on the asset side of the balance sheet include those assets which are employed in the main income - earning activity of the business concern. Table II shows the item-wise break-up total assets.

TABLE-II

ITEM-WISE DISTRIBUTION OF THE TOTAL ASSETS

(In Rs. Crores)

Years	Fixed Assets	Invest-ment	Loans & Advan-ces	Current Assets	Cash & Bank balance	Total Assets
1976	58.04 (8.84)	.0001 (0.0)	44.40 (6.76)	536.45 (81.69)	17.77 (2.71)	656.66
1977	67.26 (7.47)	.0001 (0.0)	46.36 (5.15)	744.17 (82.67)	42.40 (4.71)	900.20
1978	80.48	.0001 (0.0)	70.52 (9.31)	568.61 (75.08)	48.21 (6.37)	757.32
1979	142.31 (11.53)	.0001 (0.0)	62.61 (5.07)	1004.21 (81.32)	25.69 (2.08)	1234.83
1980	152.01 (6.48)	.0001 (0.0)	64.98 (2.77)	2121.09 (90.38)	8.68 (0.40)	2346.77
1981	162.40 (6.79)	.0001 (0.0)	78.23 (3.27)	2145.83 (89.71)	5.51 (0.23)	2391.97
1982	173.66 (5.81)	.0001 (0.0)	82.73 (2.77)	2728.32 (91.25)	5.23 (0.17)	2989.94
1983	130.08 (4.54)	.0001 (0.0)	101.44 (3.49)	195.37 (91.94)	3.26 (0.30)	430.15
1984	206.96 (4.54)	.0001 (0.0)	159.11 (3.49)	4190.95 (91.94)	1.37 (0.30)	4558.39
1985	253.93 (4.44)	.0001 (0.0)	215.37 (3.77)	5241.77 (91.66)	7.55 (0.13)	5718.62
	15.90	0.0	17.11	1.79	-12.53	26.41

The analysis of the asset side of the balance sheet indicates that current assets forms a major component (80 - 90 per cent) of total assets, followed by fixed assets (9 to 10 per cent), loans and advances (5 to 6 percent), cash and bank balances and investment (an significant amount). Since the objective of the FCI is to protect the interest of the vulnerable through price stabilisation,a major portion of its assets are held in the form of Food grains, fertilizers, sugar and others(ie) current assets.

A comparison of the growth rates indicates that loans and advances witnessed maximum rate (17.11 per cent) of increase followed by fixed assets (15.90 per cent) and current assets (1.79 per cent), while cash and bank balances showed a negative rate of growth.

A. 3 Net worth:

Net worth is defined as the current asset minus the current liabilities. It determines the financial solvency of the concern and help us in determining whether the performance has been stable or not. The findings are presented in Table - III

TABLE - III

. NET WORTH OF THE FCI OVER THE YEARS

(in Rs. Crores)

Years	Current Assets	Current Liabilities	Net Worth
1976	536.45	191.27	247.76
1977	744.17	258.9	485.27
1978	568.61	225.32	343.29
1979	1004.21	254.62	749.59
1980	2121.09	262.11	1858.98
1981	2145.58	386.81	1759.02
1982	2728.31	475.55	2252.76
1983	195.37	422.19	-226.82
1984	4190.95	445.71	3745.24
1985	5241.77	500.21	4741.56

From the above table it is evident that except during 1983, in all the remaining years the net worth have been positive indicating the financial solvency of the concern. But it is to be noted here that the negative net worth during 1983 may be due to failure on the food front of some external factors. But on an average, the performance of FCI have been stable and it did enjoy a comfortable resource position.

A.3 Consumer Subsidy:

The procurement and issue of food grains by the FCI are done at prices fixed by the Government. As the difference between the two prices do not fully cover the expenditure incurred by the corporation in its various stages of its operation, the difference between its operational cost and the issue price is reimbursed by the Central Government in form of as consumers subsidy, Table - IV presents the total consumer subsidy to FCI from the Government.

TABLE - IV

TOTAL CONSUMER SUBSIDY TO FCI OVER THE YEARS

(in Rs. Crores)

Years	Total consumer subsidy
1976	324.70
1977	524.79
1978	656.57
1979	701.86
1980	735.18
1981	865.33
1982	926.60
1983	1080.35
1984	1362.61
1985	1545.94

Over the years, there has been a steady increase in the consumer subsidy alloted to the FCI by the Government. It is obvious from the above information that the FCI has not been able to meet the operational cost of its normal trading activity out of the margin which the Government allows between its purchase and issue prices. Even allowing for the fact that the corporation has to function within four corners of the Government rules, regulation and policies, the mounting subsidy cannot be justified. Hence it is essential that FCI takes steps to see that it trims its own managerial and operational capacities so as to function most efficiently and economically within the given frame-work.

A.4 Sales:

The food corporation of India does not undertake direct sales of commodities to the consumer, but act as a storage agent on behalf of the civil supplies/food department of the State Government and in consultation with these departments allocates grains to fair price shpps, roller flour mills, Modern Bakeries etc. Table - V shows the total sales turnover of the FCI in value term and cost of sales.

TABLE - V

SALES TURNOVER AND COST OF SALES

(in Rs. Crores)

Year	Sales	Cost of Sales
1976	1545.76	1610.01
1977	1635.53	1696.26
1978	2190.31	2273.50
1979	1988.22	2087.62
1980	2225.01	2331.67
1981	2759.16	2971.41
1982	2813.97	2954.68
1983	3173.05	3355.02
1984	3529.95	3853.58
1985	3168.69	3475.94

Over the years the total sales have registered 7.44 percent rate of increase. However the rate of increase has not been consistent. During 1979 and 1985 the sales have declined. This decline in sales may be due to the easy availability of stocks of grains in the open market.

Compared to total sales, the cost of sales have registered a higher rate of growth of about 8 percent . It should be noted here that in each year the cost of the sales have been more than that of the sales turnover. From this we can conclude that, the FCI have been running on uneconomical lines and no efforts have been made to reduce the cost. Hence, in the interest of the consumer, it is essential that steps be taken by FCI to reduce the expenses involved in the sales of the commodities so as to make it more profitable.

Gross Income:

Gross income is arrived at by deducting the cost of sales from sales plus consumer subsidy. Gross income figures helps in determining the volume of business handled by the FCI. Table VI shows the gross income of the FCI over the years.

TABLE VI

GROSS INCOME OF THE FCI

(in Rs. Crores)

Years	Gross Income
1976	260.45
1977	464.06
1978	573.37
1979	602.46
1980	628.52
1981	653.08
1982	753.89
1983	898.38
1984	1038.98
1985	1238.96
Compound rate of growth	16.9

During the period of study, there has been a consistent increase in the gross income of the FCI. The compound rate of growth was estimated to be 16.9 per cent. But this increase in income was mainly because of the increase in consumer subsidy, rather than increased sales. Since, as seen in Table - V, during certain years the cost of sales have been more than the income from sales. Hence, there is scope for improvement in the income-earning capacity of the FCI by minimising the sales cost figures and improving total sales turnover.

A.6 EXPENSES:

Expenses means the cost incurred in the actual carrying on of the business during a particular period. Table VII shows the total expenses incurred by the FCI under different heads over the period of time.

TABLE - VII

ITEM - WISE DISTRIBUTION OF THE EXPENSES (IN RS.Crores)

Year	Freight Charges	Handling Expenses	Employees Remurerative and Benefits	Interest	Depreciation	Others	Total
1985	273.54 (22.14)	110.08 (8.91)	149.67 (12.12)	587.00 (47.52)	11.86 (0.96)	103.15 (8.35)	1235.31
1984	285.84 (27.60)	88.50 (8.54)	125.21 (12.09)	432.66 (41.77)	11.13 (1.07)	92.46 (8.93)	1035.81
1983	284.54 (31.86)	82.04 (9.19)	108.01 (12.09)	334.56 (37.46)	8.83 (.99)	75.10 (8.41)	895.08
1982	236.50 (30.17)	(83.11) (10.60)	(94.41) (12.04)	262.41) (33.47)	8.36) (1.07)	99.20 (12.65)	783.98
1981	182.98 (29.25)	71.15 (11.37)	83.35 (13.32)	237.04 (37.89)	7.20 (1.15)	70.89 (11.33)	625.61
1980	153.23 (24.11)	64.89 (10.34)	74.15 (11.81)	289.05 46.05)	6.93 (1.10)	39.50 (6.29)	627.74
1979	121.18 (20.17)	59.99 (9.99)	67.66 (11.26)	286.58 (47.70)	6.71 (1.12)	52.72 (9.77)	600.83
1978 1977	126.91 (22.22)	46.80 (8.19)	59.89 (10.49)	288.72 (50.55)	6.62 (0.58)	42.25 (3.70)	571.19
1977	111.51 (24.14)	38.58 (8.35)	52.39 (11.34)	226.01 (48.92)	6.95 (1.50)	26.53 (5.74)	461.97
1976	86.32 (33.49)	35.27 (13.67)	39.36 (15.27)	76.53 (29.70)	8.56 (3.32)	11.68 (4.53)	257.72
Compund rate of growth	12.23	12.06	14.29	22.60	3.32	24.34	17.14

Over the years, there has been a consistent increase in the total expenses incurred by the FCI. Item-wise, interest forms a major component (41 per cent) of the total expenses of the FCI, followed by freight charges (25 to 30 per cent), employees remuneration and benefits, (around 12 per cent), handling expenses (10 to 11 per cent), other expenses (6 to 7 per cent) and depreciation constituting a negligible portion of the total expenses. Growth-wise, the maximum increase was withened in other expenses followed by interest, employers remuneration andbenefits, freight charges, handling charges and depreciations. The high interest charges may be because of the increasing dependence of the FCI on secured and unsecured loans. Such increasing expenses is a matter of concern and hence, it is essential that FCI stream lines its financial liabilities so as to reduce the interest charges and thereby reduce the unproductive expenses incurred by the FCI.

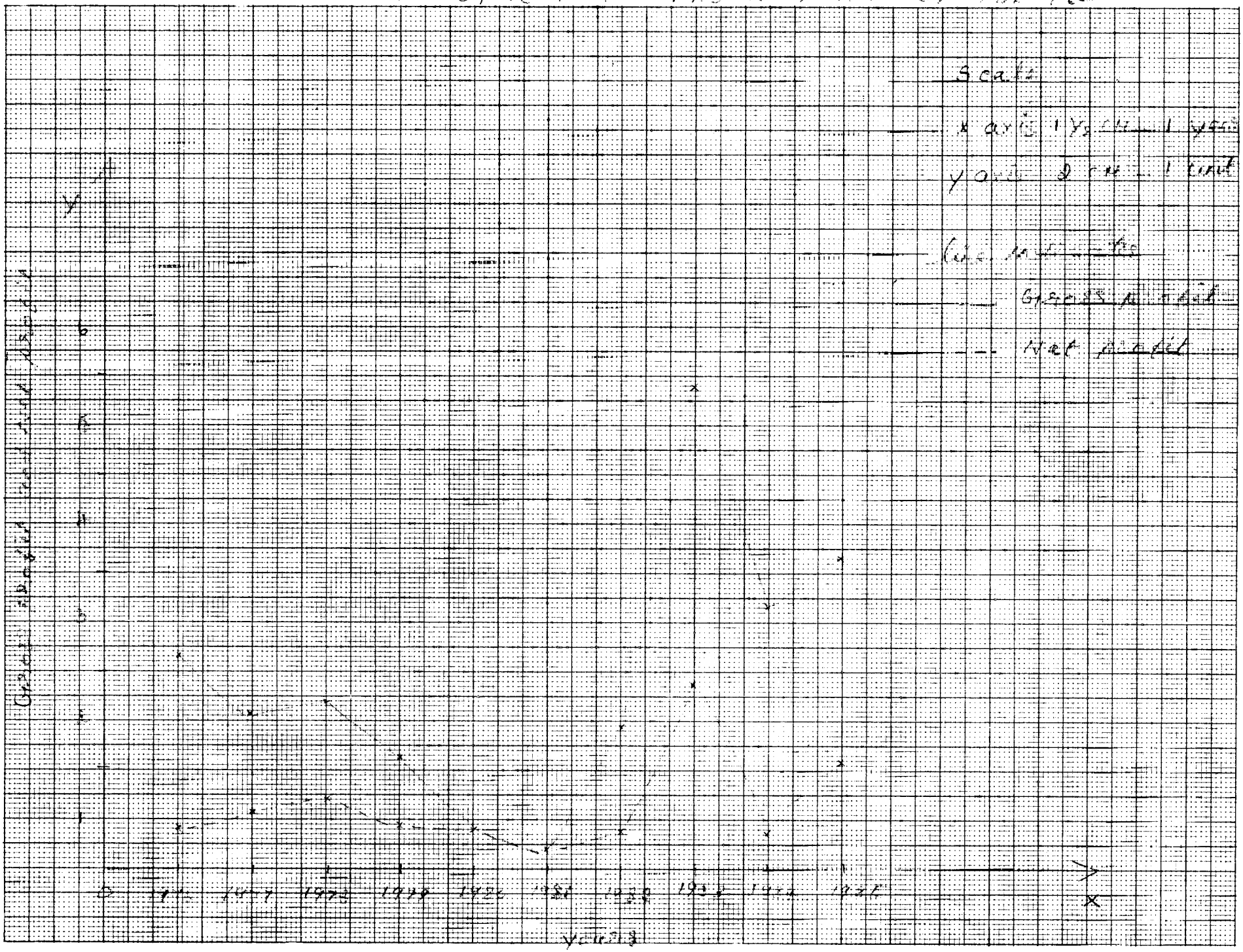
A.7 PROFIT:

An a nalysis of the profit figure is essential since it enables one to determine the profitability of the concern and to see what portion of the total revenue is left over after meeting the various expenses incurred by the concern. Table VIII the gross profit and net profit ~~and net profit~~ of the FCI during the period of study.

TABLE - VIII

GROSS PROFIT AND NET PROFIT OF THE FCI (in Rs,crores)

Years	Gross Profit	Annual rate of growth	Net profit	Annual rate of growth
1976	2.74	..	0.94	..
1977	2.04	-2.37	1.14	2.13
1978	2.19	0.48	1.19	0.44
1979	1.63	- 2.56	0.98	-1.77
1980	0.78	- 5.22	0.78	-2.04
1981	0.47	-3.97	0.47	-3.97
1982	1.91	30.64	0.69	4.68
1983	5.30	17.15	2.30	23.33
1984	3.18	-4.0	0.70	-6.96
1985	3.66	1.51	1.66	13.71
Compound rate of growth	2.94	..	5.85	..


Scale
x axis 1½ cm = 1 unit
y axis 2 cm = 1 unit
Graph paper
y
x

The analysis of the above table indicates that while the gross profit and net profit had registered a compound rate of growth of 2.94 percent and 5.85 percent respectively. This increase has not been consistent. Over the years there has been wide fluctuations in profit margin as shown in figure I. The annual rate of growth indicates during certain years the rate of growth has been negative. During two years, namely, 1980 and 1981, the gross and net profit figures were the same since the FCI has not made any provision for taxes during this particular year. This may be due to low gross profit margin. If such provisions were made, then FCI would have recorded negative net profit during this period. Hence, on the whole, the performance of the FCI has not been very commandable. There is scope for further improvement by reducing unwanted expenses and improving its sales as to increase its profit margins.

A. 8 A Trend Analysis:

An expomential function of the form:

$Y = AB^t$

was fitted to the figures on sales, cost of sales , total expenses, gross income and net profit figures to find the rate of growth in those variables and to identify which of the factors have been responsible for earning profits and which have acted as a drain on the total earning of the concern. The results of the above analysis have been presented in Table IX below.

TABLE - IX

ESTIMATED COEFFICIENTS OF THE EXPONENTAL FUNCTION

S.No.	Coefficient	Growth rate (g) (in per centage)	R^2	Standard	t Test and level of signifi-cance
1.	1.095	9.5	.9012	.0046	8.5427**
2.	1.1011	10.11	.9428	.0036	11.6111**
3.	1.1468	14.68	.8851	.0076	7.8290**
4.	1.1471	14.71	.8895	.0074	8.0541**
5.	1.0215	2.15	.0198	.0229	.4018@

** Significant at both 5 Percent and 1 per cent level

@ Insignificant at both 5 per cent and 1 per cent level

From the above table, it is apparent that all the variables have showed a positive rate of growth. But a closer look at these figures reveals certain interesting facts. The overall rate of growth in the case of sales and cost of sales on the one hand and total expenses and gross income on the other hand have been more or less equal. Because of this more or less equal increase, we find that the rate of growth in net profit have been only 2.15 per cent, an insignificant increase when compared to the rate of growth in other variables. Thus, whatever increase that has been witnessed in gross income has been completely neutralised by increased expenses resulting in the low-rate of growth of net profit. From this we can conclude that the expenses including the costs of sales have acted as a drain on the net profit. margin of the FCI, while the gross income have contributed to an increase in net profit margin.

B. Ratio Analysis:

Having looked at the individual items of the balance sheet, it will be worthwhile to compute the ratios in order to evaluate the performance of the FCI in fulfilling the objectives of stability, solvency and profitability. The results are presented in Table X below:

TABLE - X

RATIO ANALYSIS OF THE PROFIT AND LOSS ACCOUNT OF FCI :

Year	Current Ratio	Current Liabilities to Network	Net profit to sales	Return on total Resources	Gross Profit to sales
1976	2.8047	0.7720	0.0605	0.1424	0.1685
1977	2.8743	0.5335	0.0699	0.1270	0.2837
1978	2.5235	0.6564	0.0543	0.1570	0.2618
1979	3.9440	0.3397	0.0491	0.0790	0.3030
1980	8.0924	0.1410	0.0352	0.0335	0.2825
1981	5.5474	0.2200	0.0170	0.0196	0.2367
1982	5.7372	0.2111	0.0247	0.0232	0.2793
1983	0.4628	-1.8613	0.0724	0.5340	0.2831
1984	9.4029	0.1190	0.0200	0.0155	0.2943
1985	10.4792	0.1055	0.0523	0.0290	0.3910

Except during 1982, in all the remaining years, the current ratio was found to be greater than 2, indicating the financial solvency of the concern. In otherwords, the FCI was able to meet all its commitments. But it is to be noted here that the current ratio in all years, other than 1982, exceeded the normal limit of 2:1, indicating that the FCI was over cautious with regard to maintaining comfortable resource position.

The ratio of current liabilities to net worth has been declining implying that the value of net worth to total liabilities has increased and thereby protecting the concern from insolvency. However, the negative ratio during 1983 may be due to wrong investment decision or changes in some external factors like prices etc. Thus, on the whole, looking at these two ratios we find that the FCI has been successful in achieving the objectives of solvency.

However from the point of view of profitability, we find that the performance of the FCI is far from satisfactory. The ratio of net profit to sales, return on total resources and the ratio of gross profit to sales were found to be very low and declining over the years, reflecting poor management performance. Inability of the management to reach optimum level of sales, inefficient handling of resources etc. However, we

cannot attribute poor management performance to be the sole reason for the low ratios. External factors like unfavourable market-condition, price squeeze, government policy etc. may have also been responsible for low ratios. But on the whole, we can conclude the performance of the FCI has not been satisfactory and there is scope for further improvement by reducing unwanted expenses and achieving optimum sales to as to achieve better performance and thereby fulfill the objectives of stability and profitability.

(ii) OPERATIONAL PRACTICES OF THE FCI:

Over the past two decades, the FCI has emerged as the principles autonomous agency of the Government of India for handling procurrement, imports, storage and distribution of food grains, , and implementing the national food policy. An attempt is made here to evaluate the operational practices of the FCI in order to examine how for the corporation has been successful in fulfilling the objectives laid before it.

(i) Procurement:

Procurement involves the buying of certain select categories of foodgrains at notified prices by the Government or its agents from the producers and traders. Since its inception, the FCI has played a dominant role in the procurement policy of the government. Table XI reveals the procurement role of the FCI in comparison to other procurement agencies of the Government.

TABLE- XI

PROCUREMENT OF RICE AND PADDY BY THE FCI AND OTHER PUBLIC AGENCIES

(In Lakh Tonnes)

Year	Total Procurement	FCI	OTHERS	Col. 3 as per cent of Col 1.2
1976	74.78	28.13	46.65	37.62
1977	88.69	14.89	73.80	16.79
1978	53.52	20.16	33.36	37.67
1979	73.99	35.61	38.38	48.13
1980	47.45	24.76	22.69	52.18
1981	71.31	41.94	29.37	58.81
1982	85.27	54.67	30.60	64.11
1983	81.14	60.33	20.81	74.35
1984	85.38	62.09	23.29	72.72
1985	111.84	77.43	34.41	69.23
Average	77.34	42.00	35.34	54.31

The table reveals that during the period 1976 to 1985, the procurement of rice and paddy to the total procurement varied from 16.79 per cent to a maximum of 74.35 per cent. On an average, during the entire period of study, the FCI contributed 54.31 per cent of the total procurement. This reveals the significant role of the FCI in the procurement drive of the government.

This raises the question as to how far the FCI has been successful in meeting the commitments laid before it. Table XII shows the total procurement of foodgrains by the FCI as a proportion to the total foodgrain production in the economy.

TABLE XII

PROCUREMENT OF FOOD GRAINS BY FCI AS A PERCENTAGE OF TOTAL PRODUCTION

(In Lakh Tonnes)

Year	Total production	Procurement of FCI	Col.(3) as per cent of Col.(2)
1	2	3	
1976	1210.34	106.87	8.83
1977	1111.66	112.82	10.15
1978	1264.07	100.53	7.95
1979	1319.02	119.49	9.06
1980	1097.00	119.73	10.91
1981	1298.67	115.72	8.91
1982	1332.95	140.99	10.58
1983	1295	149.24	11.52
1984	1524	159.79	10.49
1985	1455	190.97	13.13
Average	1290.77	131.62	10.20

Over the years, the amount of food grains procured by the FCI, on an average, was only 10.2 per cent per annum of the total foodgrain production in the country. But according to the National Commission on Agriculture, the procurement should consist of 12 per cent of the cereals produced and in good crop years it should be more for building up the buffer stock besides meeting the public distribution commitments. Evaluating the performance of FCI on the basis of this criteria, we find that the procurement performance of the FCI was much lower except during 1985 when the procurement was 13.13 per cent. From this we can conclude that the performance of FCI in procuring foodgrains and in meeting consumer needs have been far from satisfactory and it has failed in its task of improving foodgrin production in the economy and making available sufficient quantity of foodgrains at reasonable prices to the consumer throughout the year.

BUFFER STOCK :

Buffer stock refers to the stock of foodgrains necessary for evening-out inter-year fluctuations in their supplies and prices in the interest of both consumers and producers. Till the inception of the FCI no scientific concept of the buffer stock was evolved. It was only in sixties after the establishment of FCI

that it has acquired importance. There is no unanimity among the thinkers as to what should be the optimum size of the buffer stock in our country to offest the short supplies in the years of bad crops and to mop up the surplus in the years of bumper crop. Ram Saran has estimated that a buffer stock of about 10 million tonnes, which could be about 10 per cent of the produce (in 1968-69) would be required in India to meet any shortfall or excess production that may arise. In the light of this statement, it would be interesting to evaluate the total buffer stock held by the FCI and see how far the FCI has been successful in meeting the needs of the consumers as well as producers.

TABLE XIII

LEVELS OF BUFFER STOCK OF FOODGRAINS (In Lakh Toones)

Years	Buffer stock	Production	Col.(2) as per cent of Col.(3)
(1)	(2)	(3)	
1976	33.92	1210.34	2.80
1977	26.69	1111.66	2.40
1978	29.59	1264.07	2.34
1979	32.29	1319.02	2.45
1980	32.85	1097	2.99
1981	34.00	1298.95	3.22
1982	41.78	1332.95	3.13
1983	41.68	1295	3.22
1984	40.71	1524	2.67
1985	42.92	1455	2.95
Average	35.64	1290.77	2.76

From the table it is evident that on an average, the buffer stocks with the FCI as a percentage of production. figures was only about 3 percent, which is much below the optimum level of 10 per cent suggested by Ram Saran. In the absence of such stocks it is questionable as to-how far the FCI will be successful in fulfilling the objectives of price stabilisation, form income stabilisation and consumers income stabilisation. Hence, in the interest of both consumers and producers, it is essential that the FCI undertake efforts to mobilise sufficient foodgrains during the periods of good harvest so as to reduce the fluctuations in both income and prices.

STORAGE OPERATION:

Storage operation is one of the important function of the FCI, since the foodgrains are only seasonally procured but is consumed throughout the year. Storage operations helps in reducing the fluctuations both in the availability and price of food grains. The corporation uses its own storage facilities as well as hires it from private agencies and state governments. Recently, to meet the growing needs for storage accommodations, the FCI has started using CAP storage (cover and plinth). Table - XIV shows the total ptorage facilities available to the corporation over the years.

TABLE - XIV
STORAGE FACILITY AVAILABLE (90^{o} FCI)

YEARS	Covered			Open Plinths			Grand Total
	Owned	Hired	Total	Owned	Hired	Total	
1976	54.71	37.36	92.07 (82.21)	10.79	9.13	19.92 (17.79)	111.99
1977	58.57	55.86	114.43 (60.32)	18.53	56.72	75.251 (39.68)	189.68
1978	64.58	71.00	135.58 (65.23)	16.16	56.11	72.27 (34.77)	207.85
1979	72.40	82.25	154.65 (70.11)	12.90	53.03	65.93 (29.89)	220.58
1980	75.87	85.93	161.80 (70.57)	12.89	54.60	67.49 (29.43)	229.29
1981	77.57	80.12	157.69 (75.85)	12.39	37.83	50.22 (24.15)	207.91
1982	79.58	80.07	159.65 (86.88)	11.93	12.18	24.11 (13.12)	183.76
1983	-	-	-	-	-	-	-
1984	85.45	85.51	170.96 (91.79)	10.57	4.72	15.29 (8.21)	186.25
1985	91.75	105.17	196.92 (88.43)	7.98	7.79	25.77 (11.57)	222.69
Average	73.39	75.92	149.31 (76.35)	12.68	33.57	46.25 (23.65)	195.55
Compound growth rate	5.31	10.90	7.90	-2.29	6.90	2.61	7.12

- Not available
figures within parantheses denote percentages.

Table indicates that the storage capacity owned and hired by the FCI has been growing at the rate of 7.12 percent. Out of the total storage capacity nearly 76.35 per cent are in the form of covered capacity and only 23.65 per cent is in the form of open plinth. Though the own storage capacity available with the FCI has increased from 65.5 lakh tonnes in 1976 to 99.73 lakh tonnes in 1985, the FCI depends heavily on hried storage capacity in meeting its storage needs. This increases the scope for pliferage, smuggling and black marketing of foodgrains . Hence, it is essential that the storage facilities are improved so that all types of malpractices can be reduced.

Trend Analysis:

The exponential functions of the form:

$$Y_t = AB^t$$

was fitted to the data on procurement, buffer stock and storage capacity to stduy annual rate of growth in these variations and to see whether the rate of growth in storage capacity is adquate to meet the needs of procurement and bufferstocks. The results are presented in the Table - XV below:

TABLE XV

CO - EFFICIENTS OF THE EXPONENTIAL FUNCTION

S.No	Variables	b	g = (b-1)x100	R^2	S.E	t values and of significance
1	Procurement	1.0629	6.29	.8377	.0041	6.4634**
2	Buffer stock	1.0471	.7284	.7284	.0043	4.6512**
3	Storage capacity	1.0739	.3431	.3431	.0152	2.0368*

** Significant at both 5 and 1 per cent levels

* Significant at 1 per cent level.

From the above table it is evident that the rate of growth in storage capacity is more than that of buffer stock procurement. But, on this basis, we cannot conclude that storage capacity is adequate to meet the needs of prodúrement and maintaining buffer stock, since a closer look at the growth rate indicates that the rate of growth in storage capacity is only slightly more than that of procurement. Further in computation of growth rate in procurement. We have considered only the procurement of foodgrains alone excluding sugar, fertilizers etc. when these quantities are also take into account, the storage capacity may be found to woefully inadequate. Hence, to meet thegrowing needs of the economy, steps must be taken to increase the storage capacity available with the FCI.

Internal Distribution (Off-take):

Another important function of the FCI is to supply rice and wheat at reasonable prices for internal consumption (off-take) in the different states. The corporation undertake this task at the instance of the Food and Civil Supplies Department through a net-work of the Fair Price shops and ration shops. Table XVI presents total off-take of rice, wheat and coarse grains by the corporation over the years.

TABLE XVI

OFF - TAKE OF FOODGRAINS FROM FCI (In lakh tonnes)

Year	Rice	Wheat	Coarse grains	Total
1976	20.96	45.25	2.01	68.22
1977	29.68	58.87	4.41	92.96
1978	20.87	66.35	.21	87.43
1979	28.54	71.85	.06	100.45
1980	51-94	86.58	.15	138.67
1981	54.43	63.91	.21	118.55
1982	60.51	69.97	.11	130.59
1983	67.55	88.79	.11	146.45
1984	69.95	72.76	.10	142.81
1985	57.77	66.53	.09	124.39
Average	46.22	68.09	.75	115.05
Co-efficient of variation	41.57	16.42	188.98	23.05

Though the total off-take from the FCI had increased, this increase has not been continuous. Over the years, we find there is a wide fluctuations in the internal distribution undertaken by the FCI, especially with regard to rice and coarse cereals. The co-efficient of variation was estimated to be 188.98 percent for cereals and 46.22 per cent in the case of rice and only 16.42 per cent for wheat. Such fluctuations are not in the interest of the consumers and hence steps must be taken to even out such fluctuations so as to protect the interest of the consumers.

Exports:

Another important functions of FCI in India is to export rice and wheat to other countries. Most of these exports take the form of gifts or contract agreements. The countries involved are Vietnam, Korea, Laos, Indonesia, Afghanisthan, Bangladesh, USSR, Uganda, Zaire, Kampuchia, Mauritus, Dubai, Mozambique, Maldives, Madgaskar, Sri Lanka and Nepal.

Table XVIII shows the commodity-wise break-up of total exports from FCI during the period of study.

TABLE XVII

COMMODITY - WISE BREAK - UP OF TOTAL EXPORTS

(in Lakhs Million Tonnes)

Years	Wheat	Wheat (flour)	Rice	Total
1976	..	..	..	..
1977	..	..	..	..
1978	48.54	.81	4.15	53.50
1979	72.75	5.08	1.19	79.02
1980	63.09	1.04	39.79	103.92
1981	5.29	15.52	1.50	22.31
1982	..	..	33.40	33.40
1983	0.86	..	37.14	38.00
1984	..	..	..	..
1985	3.24	..	..	3.24

.. Data not available

From the above table we can conclude that initially from 1978 to 1980 there was a spurt in export of foodgrains, but since than the export to have waned. As pointed out earlier most of the exports were to meet the contractual agreement or as a gift to less developed economics.

TRANSPORTATION:

The foodgrains surpluses in the country are concentrated in a few statas like Punjab, Haryana, Uttar Pradesh etc and are, for the most part transported by rail and road to the consuming areas. Such movements are not merely inter state but also intrastate.

Table - XVIII shows the movements of fertilizers and foodgrains.

TABLE XVIII

MOVEMENT OF FOODGRAINS AND FERTILIZERS (in Million Tonnes)

Year	Foodgrains		Total	Fertilizers		Total
	By rail	By Road		By rail	By Road	
1976	9.7	4.9	14.6	2.6	0.5	3.1
1977	10.5	7.3	17.8	1.6	0.1	1.7
1978	9.6	9.2	18.8	1.6	0.1	1.7
1979	9.2	8.4	17.6	2.2	0.4	2.6
1980	11.0	7.1	18.1	1.9	0.2	2.1
1981	11.6	7.1	18.7	1.3	0.4	1.7
1982	14.0	N.A.	14.0	0.8	0.2	1.0
1983	15.4	N.A.	14.0	0.07	0.2	0.09
1984	15.1	N.A.	15.1	0.2	N.A.	0.2
1985	12.9	N.A.	12.9	0.6	N.A.	0.6
Average	11.9 (73.64)	7.3 (26.36)	16.16	1.29 (63.86)	0.24 (36.14)	2.02

- figures within parantheses indicates percentage.

From the table it is evident that both in the case of foodgrains and fertilizers, on an average, railways were used as a means to transport the commodity from the production to the consumption centres. The increasing use of rail transport when compared to road transport may be due to two factors namely (i) the bulky nature of the commodities or (ii) the lower transportation cost in the former when compared to the latter. But whatever be the reasons, it is noted here that FCI has try to exploit both means of transportation to secure a faster movement of foodgrains and fertilizers from one centre to another.

RELATIONSHIP BETWEEN PROCUREMENT, BUFFER STOCK AND SALES:

As pointed out earlier, procurement involves the buying of certain selected 5 categories of foodgrains at notified prices by the government or its agent from the producers and traders. The amount procured has to be adequate to meet the commitments of the government for the public distribution system and for building up adequate buffer stocks; to even out year to year fluctuations in prices and availability and thereby restrain speculative activites. Further, the amount procured by the corporation will also depend upon the availability of storage capacity.

To identify the impact of buffer stock, sales and storage capacity on procurement, a simple regression

model of the form:

$$\text{Log } Y = \log a + b \log X + U$$

Where Y refers to procurement.

X refers buffer stocks/sales/storage capacity and a, b parameters, was fitted separately to the data collected. The results of the analysis are presented in Table - XIX.

TABLE XIX

REGRESSION CO-EFFICIENTS AND LEVEL OF SIGNIFICANCE

S.No.	Variables	Regression co-efficient b	R^2	Standard error of b	t vales and level of significance
1.	Buffer stock	1.0477	.7170	.2350	4.4593**
2.	Sales	0.5528	.6143	.1549	3.5688**
3.	Storage capacity	.2506	.2076	.1731	1.4477 $\mathfrak{f}$

** Significant at both 5 per cent and 1 per cent level

$\mathfrak{f}$ insignificant at both 5 per cent and 1 per cent level.

The findings are discussed below:

(i) Buffer Stock:

The R^2 was very high indicating that the fit was good (i.e) nearly 72 per cent of the variation in procurement was due to a change in buffer stock operation. The regression co-efficient was estimated to be 1.0477, indicating that one unit change in buffer stock will bring about 1.0477 unit change in procurement. The coefficient was found to be significant at both 5 per cent and 1 per cent level, implying that the level of buffer stock will tend to determine the procurement policy of the corporation.

(ii) Sales:

The R^2 value of .6143 indicates that the fit was good (i.e) about 61 per cent of the variation in procurement was due changes in sales. The regression co-efficient of 0.5528 implies that there exist a pasitive relationship between sales and procurement (i.e) one unit change in sales will bring about .5528 unit change in procurement. The co-efficient was estimated to be significant at both 5 per cent and 1 per cent level, reinterating the significance of sales in determining the procurement level.

(iii) Storage Capacity:

In the case of storage capacity, the R^2 value was

estimated to be very low (22 per cent) indicating that the fit was not good. More over the regression coefficient was also found to be insignificant at both 5 per cent and 1 per cent level implying that it was not a significant factor influencing the procurement policy of the corporation. In otherwords the procurement is not bound by the availability of storage facilities but is influenced by other variables such amount of buffer stock be maintained the needs of the public distribution system and so on.

To study the simultaneous impact of buffer stock and sales on procurement, a multi-regression model of the form:

$$\text{Log}_Y = \log a + b_1 \log X_1 + b_2 \log X_2 + U_i$$

where Y refers to procurement level, X_1 refers to buffer stock, X_2 sales, bi ($i = 1, 2$) refers to the partial regression co-efficient and a_1 an arbitary constant, was fitted to the data.

The results are presented in Table - XX

TABLE - XX

PARTIAL REGRESSION CO-EFFICIENTS AND LEVEL OF SIGNIFICANCE

S.No.	Variables	Partial Regression co-efficient	Standard error	t values and level of significance.
1.	Buffer stock	.7571	.4052	1.8685 $\dagger$
2.	Sales	.1972	.2311	.8532 $\dagger$

$\dagger$ insignificant at both 5 per cent and 1 per cent level

The estimated multiple regression equation is :

$$\text{Log } Y = \log a \; t.7571 \log x_1 \quad t \quad .1972 \log x_2$$

$$R^2 = .7381$$

The fit was excellent since the R^2 value was estimated to be .7381, (i.e) nearly 74 per cent of the variation in procurement was due to changes in buffer stocks and sales. The partial regression coefficient of .7571 and .1972 indicates that an unit change in buffer stocks and sales will bring about .7571 and .1972 units change in procurement respectively. However, the t values for both the coefficients was found to be insignificant at both 5 per cent and 1 per cent level. This may be due to the presence of multi collinearity in the variables. The variables sales and buffer stock are closely interrelated and the correlation was found to be .809, which is very high. Because of the presence of this high degree of correlation, the variables were found to be insignificant when taken simultaneously. But taken individually, the variables do have a significant influence on the procurement policy of the corporation.

Summary and Conclusion

SUMMARY AND CONCLUSION

The Food Corporation of India was set up on Jan. 1965 with the objectives of (i) acquiring and procuring on behalf of the centrol and the state governments, sizeable portion of the marketable surplus at incentive prices from the farmers, (ii) ensuring timely release of stocks through the public distribution system, so that the consumer prices do not rise unduly, (iii) minimising seasonal price fluctuations and interregional price variations; and (iv) building up sizeable buffer stocks of food with internal procurement and imports. In recent years, FCI has registered a remarkable progress and has grown not only in number but also in size and complexity of their functions. Despite, the various criticisms levelled against it, it has tried to serve the interest of both producers and consumers. A need has, therefore, arisen for reviewing the operational practices of the FCI with the view to evaluating as to how far the corporation has been successful in fulfilling the social responsibilities placed before it.

The present study 'An Empirical Evaluation of the Food Corporation of India" was undertaken with the following objectives:

(i) To evaluate the financial viability of the corporation in terms of their asset-liability structure, sales turn over, gross income, expenses, net profit and so on;

(ii) To assess the role of the FCI in respect of its operation practices like procurement, buffer stocks, storage internal distribution, exports and movement of food-grains; and

(iii) Identify the factors that influence the procurement policy of the FCI.

The entire study was based on secondary data which was collected from the "Annual Reports" and "Statistical Panarama" published by the FCI. The data so collected was tabulated and analysed by using percentages, compound growth rates, exponential function, simple and multiple regression analysis and ratio analysis for the purpose of comparisons.

The major findings of the study were:

1. The secured loans forms the major component of the total liabilities of the FCI followed by current liabilities, unsecured loans and capital, with reserves making a negligible contribution to total liability. The growth rate was also found to be high in the case of secured loans, thereby indicating the financial dependence of the FCI.

2 On the asset side, current assets formed the bulk of the total assets. However, the comparison of the compound growth rate indicates that the maximum growth was witnessed in the case of loans and advances (17.11 per cent) followed by fixed assets (15.90 per cent) and current assets (1.79 per cent).

3. Over the years the net worth of the FCI have been positive and increasing, thereby indicating the financial solvency of the concern.

4 There has been a steady increase in the consumer subsidy over the years implying incapability of the FCI to meet the operational cost of its normal trading activity out of the margin the government allows between its purchase and issue prices.

5 Comparing the sales turnover with that of the costs of sales reveals that in each year the cost of sales have been more than that of the sales turnover. From this we can conclude that the FCI has been running on uneconomical lones and no effort has been made to reduce the cost.

6 The gross income of the FCI witnessed an increase of 16.9 percent, but this increase was mainly because of the increase in consumer subsidy rather than increase in sales turnover..

7 The total expenses of the FCI increased over the years and the maximum increase was in the case of other expenses followed by interest, employers remunerations and benefits, freight charges, handling charges and depreciation.

8 Though the gross profit and net profit exhibited a positive growth, the growth has not been consistent. Over the years, there was marked fluctuations in gross and net profits and during certain years the growth rate has been negative. Hence profitability-wise the performance of the FCI has not been commendable.

9. The exponential function fitted to the data on sales, cost of sales, expenses, gross income and net profit figures indicates that the high rate of increase in expenses including sales cost have acted as a drawn on the net profit margin, while the rate of growth in gross income have contributed to an increae in net profit margin.

10 The various ratios computed to evaluate the performance of the FCI reveals that the performance of the FCI is far from satisfactory and there is scope for further improvement by reducing unwanted expenses and achieving larger sales turnover so as to fulfill the objectives of stability and profitability.

11 Though the contribution of the FCI to total procurement is 54 per cent, the total amount produced by the FCI is much lower than the norm (12 per cent) laid on by National Commission on Agriculture. Thus, in the field of procurement, the FCI has failed in its objective of making available sufficient quantity of foodgrains at reasonable prices to the consumers throughout the year.

12 In the buffer stock operation also, the amount of buffer stock maintained by the FCI is only 3 per cent, which is much lower than the optimum level of 10 per cent suggested by Ram Saran. In the absence of adequate stock, it is doubtful whether the FCI will be successful in achieving the objectives of price and income stabilisations.

13. The storage capacity available with the FCI, including both owned and hired, had increased at the compound rate 7.12 percent over the years. Though the total capacity has increased, the FCI depends heavily on hired capacity to meet its every increasing requirements, which gives room for pilferage, black marketing etc. Hence, it is essential that FCI takes steps to increase its own storage capacity so as to reduce all types of malpractices.

14 The exponential function filled to the data on procurement, buffer stock and storage capacity reveals that the rate of growth of storage capacity is only slightly more than the rate of growth in procurement and in the longrun the storage capacity may not be adequate to meet the growing needs of the economy. Hence steps must be taken to see adequate space for storing foodgrains, fertilizers and other commodities are made available through the construction of godowns.

15 Though the total off-take of foodgrains from FCI has increaed from 68.22 lakh tonnes in 1976 to 124.39 lakh tonnes in 1985, a closer look at these figures commodity-wise reveals that there has been a wide fluctuation especially in the off-take of rice and coarse cereals. Thus, the FCI has failed in its task assuring an even supply of foodgrains at reasonable prices to consumers.

16. Between 1978 to 1980, total exports from FCI increased from 53.50 lakh MT to 103.92 lakh MT, but since then it has declined. Most of these exports were to African countries, Sri Lanka, USSR, Bangaladesh etc. in the form of gift or as a part of contractual agreement.

17 Railways was used by the FCI as the major means to transport commodities to various consumption centres. This increased use of railways when compared to roads may be attributed to either (i) bulky nature of the commodity or (ii) lower freight charges of the railway when compared to roadways.

18 The simple regression analysis used to study the inter-relationship between procurement on the one hand and buffer, sales and storage capacity on the other hand revealed that the procurement is not bound by the availability of storage capacity but is influenced by the amount of buffer stock to be maintained and the total sales undertaken by the FCI.

19 The multi-regression analysis revealed that nearly 74 percent of the variation in procurement is not due to a change in buffer stocks and sales. However, both the coefficients were found to be insignificant at 5 percent level. The high R^2 coupled with insignificant coefficients may be because of the presence of the multi-collinearity in the variables. Taken individually, both the variables were

found to have significant influence on procurement and hence we may conclude that the level of buffer stock and sales determines the procurement policy of the FCI.

From the account given in the preceeding paragraphs, the conclusion emerges that there are certain lacunae in the funcioning of the FCI, like (i.e) failure to reach the procurement target; (b) instability in the operational practices of the FCI, (c) high operational cost, and so on. Hence in the light of the above assessment, the following policy measures are suggested:

1. The FCI should try to build up its reserve position so as to reduce its financial dependence on the government.

2 Efforts should be made by the FCI to reduce its operational cost by streamlining the various items of expenditure. The procurement operation should be stepped up so as to meet the needs of the economy.

3 Adequate and high levels of buffer stocks should be maintained so that the price fluctuations can be reduced.

4 More godowns and warehousing facilities should be created so as to avoid malpractices in marketing.

5 Lastly, overall administrative and operational set up of the FCI should be toned up so that it is able to achieve the goals placed before it.

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Appendix

APPENDIX-II

SIMPLE REGRESSION: RELATIONSHIP BETWEEN PROCUREMENT AND BUFFER STOCK:

$$\log y = \log a + b \log x + ui$$

Procurement y	Bufferstock x	log y	$(y-\bar{y})$	$(y-\bar{y})^2$	log x	$(x-x)$	$(x-\bar{x})^2$	$(x-\bar{x})(y-\bar{y})$
106.87	33.92	2.0289	0.08205	0.00673	1.5305	0.01634	0.00027	0.00134
112.82	26.69	2.0524	0.05855	0.00348	1.4263	0.12054	0.01453	0.00706
100.53	29.59	2.0023	0-10865	0.01180	1.4711	0.07574	0.00574	0.00823
119.49	32.29	2.0773	0.03365	0.00113	1.5091	0.03774	0.00142	0.00127
119.73	32.85	2.0782	0.03275	0.00107	1.5165	0.03034	0.00092	0.00099
115.72	34.00	2.0634	0.04755	0.00226	1.5315	0.01534	0.00024	0.00073
140.79	41.78	2.1486	0.03765	0.00142	1.6210	0;07416	0.00550	0.00280
149.24	41.68	2.1739	0.06295	0.00396	1.6200	0.07316	0.00535	0.00461
159.79	40.71	2.2035	0.09255	0.00857	1.6097	0.06286	0.00395	0.00582
190.97	42.71	2.2810	0.17005	0.02892	1.6327	0.08586	0.00737	0.01460
		21.1095	o	0.06934	15.4684	o	0.04529	0.04745

$$\bar{y} = 2.11095$$

$$\bar{x} = 1.54684$$

$$\hat{b} = \frac{\Sigma(x-\bar{x})(y-\bar{y})}{\Sigma(x-\bar{x})^2}$$

$$= 1.0477$$

$$\hat{a} = \bar{y}-\hat{b}\bar{x} = 2 \quad .49033$$

$$r^2 = \frac{\hat{b}\,\Sigma(x-\bar{x})(y-\bar{y})}{\Sigma(y-\bar{y})^2} = .716951$$

$$\sigma y^2 = \frac{(1-r^2)\,\Sigma(y-\bar{y})^2}{N-K} = .0025.$$

$$\hat{sb} = \sqrt{\frac{\sigma y^2}{\Sigma(x-\bar{x})^2}} = .23495$$

$$\hat{tb} = \frac{\hat{b}}{\hat{sb}} = 4.45925$$

APPENDIX III

MULTIPLE REGRESSION: Relationshs between procurement, buffer stock and sales.

Procurement = f (buffer stock sales)

$Y = f(X_1, X_2)$

logy	(y-y)	Log x1	$(x_1 - \bar{x}_1)$	Log x_2	$(x_2 - \bar{x}_2)$	$(Y-\bar{Y})(x_1-\bar{x}_1)$	$(Y-Y)(X_2-X_2)$	$(X_1-X_1)(X_2-X_2)$
2.0289	-0.08205	1.5305	-0.01634	3.1891	-.1938	0.00134	.0159	.0032
2.0524	-0.05855	1.4263	-0.12054	3.2137	-.1692	0.00706	.0099	.0204
2.0023	-0.10865	1.4711	-0.07574	3.3405	-.0424	0.00823	.0046	.0032
2.0773	-0.03365	1.5091	-0.03774	3.2985	-.0844	0.00127	.0028	.0032
2.0782	-0.03275	1.5165	-0.03034	3.3473	-.0356	0.00099	.0011	.0011
2.0634	0.03765	1.6210	0.07416	3.4493	.0579	0.00073	-.0028	-.0009
2.1486	0.03765	1.6210	0.07416	3.4493	.0664	0.00280	.0025	.0049
2.1739	0.06295	1.6200	0.07316	3.5015	.1186	0.00461	.0075	.0087
2.2035	0.09255	1.6097	0.06286	3.5478	.1649	0.00582	.0153	.0104
2.2810	0.17005	1.6327	0.08586	3.5009	.118	0.01460	.0201	.0101
21.1095	0	15.4684	0			0.04745	.0770	.0643

$$\Sigma x^2 = .0453$$

$$\Sigma x_2^2 = .1393$$

$$\Sigma x_1 x_2 = .0643$$

$$\Sigma y x_1 = .0475$$

$$\Sigma y x_2 = .0770$$

$$\Sigma y^2 = .0693$$

$$|A| = \begin{vmatrix} \Sigma x_1^2 & \Sigma x_1 x_2 \\ \Sigma x_1 x_2 & \Sigma x_2^2 \end{vmatrix}$$

$$= .00222$$

$$\hat{b}_1 = \frac{\begin{vmatrix} \Sigma x_1 y & \Sigma x_1 x_2 \\ \Sigma x_2 y & \Sigma x_2^2 \end{vmatrix}}{|A|}$$

$$= .7571$$

$$\hat{b}_2 = \frac{\begin{vmatrix} \Sigma x_1^2 & \Sigma x_1 y \\ \Sigma x_1 x_2 & \Sigma x_2 y \end{vmatrix}}{|A|}$$

$$= .1972$$

$$R^2 = \frac{\hat{b}1 \Sigma x1y + b2 \Sigma x2y}{\Sigma y^2} = .7381$$

$$TY^2 = \frac{(1-R2)\Sigma y^2}{N-K} = .0026$$

$$\hat{S}b1 = \sqrt{\frac{Ty^2 \Sigma x2^2}{1A1}} = .4052$$

$$\hat{S}b2 = \sqrt{\frac{Ty^2 \Sigma x1^2}{1A1}} = .2311$$

$$t\hat{b}1 = \frac{\hat{b}1}{\hat{s}b1} = 1.8685$$

$$t\hat{b}2 = \frac{\hat{b}2}{\hat{s}b2} = .8533$$