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THE WHEAT FLOUR DISTRIBUTION SYSTEM
IN SRI LANKA
AND
THE WHOLESALE AND RETAIL OPERATIONS
OF THE
COOPERATIVE WHOLESALE ESTABLISHMENT



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The Wheat Flour Distribution System In Sri Lanka
and
The Wholesale and Retail Operations of
the Cooperative Wholesale Establishment

by

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for

Agency for International Development
Mission to Sri Lanka

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This report presents the findings and recommendations of an independent specialist. It does not necessarily represent the official views of the Government of Sri Lanka or the Agency for International Development.

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DEFINITIONS AND ACRONYMS

Definitions

Net Sales -- Sales less taxes.

Cost of Goods Sold -- Purchase price of goods being sold including auxiliary costs such as freight, handling, storage, and import expenses.

Gross Operating Margin -- Difference between sales and cost of sales. Also called gross margin.

Net Operating Margin -- Gross operating margin less sales expense and other direct costs of marketing the product. Also called net margin.

Net Operating Profit -- Net operating margin less attributed overhead costs.

Net Profit -- Net operating profit less interest costs.

Acronyms

AID -- Agency for International Development

BTT -- Business Turnover Tax

C&F -- Cost and Freight

CIF -- Cost, Insurance, and Freight

CWE -- Cooperative Wholesale Establishment

EEP -- Export Enhancement Program

FAS -- Free Along Side

FC -- Food Commissioner Department

GSL -- Government of Sri Lanka

HRI -- Hotels, Restaurants, and Institutions

HRW -- Hard Red Winter Wheat

LAMSCO -- Lanka Asia Management Company

MPCS -- Multipurpose Cooperative Society

Prima -- Prima Ceylon Ltd.

EXECUTIVE SUMMARY

The study encompasses (1) the cost and price efficiency of the wheat flour distribution system with an assessment of findings, and (2) the profitability of the Cooperative Wholesale Establishment's (CWE) retail and wholesale operations.

Cost and Price Efficiency of the Wheat Flour Distribution System

The importation and milling of wheat, and the distribution of flour is a government monopoly operated by CWE, a government-owned enterprise. Wheat is delivered to the Port of Trincomalee for milling by Prima Ceylon Ltd (Prima), a privately-owned flour milling complex, which is a subsidiary of Prima Flour Mills Ltd, Singapore. Prima mills wheat under a 20-year contract with the Government of Sri Lanka (GSL) which began in 1980. Prima is guaranteed an annual minimum of 435,000 mt of wheat for milling. Prima's contract with GSL specifies that the government will procure, transport, and deliver wheat and flour packaging material to the mill. Prima's responsibility is to mill the wheat into flour at an extraction rate of 74%. The flour is then turned over to GSL for distribution. The contract provides that Prima will retain the wheat bran and other by-products of milling as payment for milling. Bran and mill feeds are exported by Prima as animal feed ingredients.

The milled flour is bagged in 67 kg jute bags or 50 kg polyethylene bags. At this stage, it becomes the responsibility of the Food Commissioner (FC) to arrange transport from the Prima mill to FC storage facilities. From these storage facilities, flour is purchased by some nearly 300 MultiPurpose Cooperative Societies (MPCS's) throughout the country. From this stage, flour enters into the bakery, Hotels, Restaurants, and Institutions (HRI), or processors system; or into the retail store system.

Title to wheat and the flour milled from the wheat remains with CWE. CWE receives payment from MPCS's or other agencies for flour purchased at the FC warehouses or mill door. The FC acts only as a physical storage and distribution contractor to CWE.

Cost-Efficiency Conclusions. In general, the system is cost efficient with two major exceptions, that of losses and distribution expense. Losses are considered excessive and have an economic impact. Someone has to pay for the loss, and since government is the only entity involved, it is the one paying for the cost of excessive losses. The actual cost of distribution is highly suspect. The cost of transport seems highly excessive. It is possible the distribution configuration is the cause. The loss allowance granted to FC should be lowered and brought into line with what is actually correct and possible.

Other costs, with the exception of duties and interest, have increased at rates less than or equal to the general inflation rate in Sri Lanka. Duties, being discontinued in 1992 have brought import charges in alignment with the inflation trend. The interest cost rise reflects the liberalization and commercialization of the Sri Lankan business community. CWE should not be given preferential treatment. It is deemed to be a commercial enterprise, although government owned.

The relationship between the CIF import cost of wheat and international prices as represented by the U.S. price is highly correlated. Cost of imported wheat is dictated by the international market. No fault can be found with import cost of product.

Final product cost price is more driven by the import cost of a product than by costs associated with importation, milling, and distribution. Costs as a percentage of final product cost have remained fairly constant throughout the five-year period. They are as follows.

<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
24	18	18	19	39
				(22)

The 1991 costs without the increase in interest and addition of duties would be 22%.

In summary, the costs over which CWE has control seem to be well controlled. Whether CWE really exerts a cost control effort is not known. The results during 1990 and 1991 are satisfactory. However, the losses and cost irregularities under FC control need to be resolved.

Price-Efficiency Conclusions. The historical pattern of wholesale and retail fixed prices cannot be considered rational given the way margins were held in a fixed position and not adjusted over time to allow for the increased cost of doing business. However, with decontrolled wholesale and retail prices as of October 1, 1992, this may no longer be an issue. Supply station price establishment in 1990 and 1991 was sufficient to cover all costs. The rationale for mill door prices being higher than supply-station prices can only be assumed to be one of providing a premium for the FC Department. The inability to rationalize mill door price and transport cost implies there may be a distortion in distribution system economic efficiency. The rationale for the importation of flour at substantially higher prices than the milling of imported wheat is unknown. It is a small percent of the market and could easily be assimilated in the establishment of a supply station price. There is no evidence that this is done.

The decline in consumer price in real terms implies that there has been basic pricing policy derived beyond that of the no-profit, no-loss concept. It could be said to be a welfare economics approach to the pricing of flour since the only objective of the price policy is to provide the cheapest possible flour to the consumer.

In summary, the pricing process as practiced by GSL is extremely inefficient. It has a history of creating monetary loss. It is not flexible. GSL does not quickly respond to increases in import product price changes. The distribution system may be economically distorted by a high margin (margin exceeding costs) at mill door. If prices have been truly decontrolled and CWE is to be solely responsible for establishing supply point sales prices, then pricing efficiency as measured against costs may improve. If the wholesale and retail markets are not interfered with, they will establish prices based on consumer demand.

Recommendations. The recommendations set forth take into consideration the management and policy aspects of the system (Section V) as well as the results of the analysis of costs and prices. There are four primary recommendations.

- 1) Application of the "bondsman" system as used in Sri Lankan rice imports is not considered feasible. It adds a segment to the wheat and wheat flour marketing channel that is not economically warranted. If GSL set a price to purchase wheat, it would have to be high enough to encourage someone to undertake such an operation in the anticipation of profit. Essentially this system would increase the cost of wheat flour to the consumer.
- 2) The need for restructuring the distribution system was presented in the cost efficiency analysis. One of the principal functions of FC is to store flour. Flour must be continually shipped from Prima to keep the mill's operational bagged-flour storage cleared. The system is operating with slightly more than three months of product storage in all positions.

To eliminate the need for flour storage in the FC warehouses, or even in the CWE warehouses, they would need to physically have flour distribution which would require that the buffer stock be maintained in wheat prior to milling. This will require additional capacity in bulk wheat storage facilities. The purpose of such storage is to create a 3.5 month operational buffer stock capacity for continuous milling operations and consequent flour flow directly into the wholesale system. The system would be improved by storing wheat rather than flour, because it is easier to maintain the quality of the product, and the consumer would receive a fresher product without the current flour storage system.

This is going to require an investment in facilities (assuming space is available to build facilities at the milling complex). In ten years, the investment would be repaid. The facility will still be a sound operating unit. The flour storage system is disbanded and sales are made at mill door. The wholesaler receives a fresher product at a price well under current supply station or mill door price. GSL does not have to pay for any excess losses as in the current flour distribution system.

Another alternative to improve the cost efficiency of the distribution system is for CWE to assume direct responsibility. This would stem losses and possibly be more cost effective. It does not answer the quality problem. It simply keeps the system as it is with more direct control.

Another alternative would be to hire another distribution contractor. The private sector is most likely not interested in becoming storage agents. They are and should be interested in merchandising products. Even if the private sector took over as a contractor, could losses be stopped? CWE retains title and is liable for losses. This places CWE in a very vulnerable position. Further, it does not address the quality problem.

The above two alternatives are only short-term solutions and do not address the need to rationalize the system.

The only valid solution is for one organization to be responsible for wheat importation and flour distribution on a profit-oriented basis. This organization has to have the required resources to hold wheat in storage so as to match milling to sales requirement. Then, flexible pricing (item 3) and further liberalization actions (item 4) could become part of the new structure for wheat importation and flour distribution.

- 3) Now that the wheat distribution system has been price decontrolled, CWE should consider a flexible price approach to setting price on flour.

This does not mean that every shipload of wheat should be individually priced. This is not a competitive system where CWE is competing against other market entities. CWE sells only one specific product of a standard specification. Trying to price each load of wheat will cause immense confusion within CWE as to what specific point of time to impose the price. It will cause immense confusion in a market which is just being decontrolled. Further, without a cost accounting system, such specific pricing could not be undertaken.

Rather, flexible pricing should be based on the concept of margins rather than the basis of cost. This approach would enable the movement of the commercialization of the domestic wheat flour flow based on a concept of a quality product at a fair price, rather than the welfare approach concept of no-profit, no-loss price setting.

Flexible pricing would require (1) collection and analysis of wheat and flour price and price-related information from export markets as well as ocean freight rates, (2) collection of import costs and operating costs occurring in the system to generate a precise cost accounting process, and (3) collection of data on the domestic flour market.

- 4) With the advent of decontrolled flour prices, other market liberalization issues should be considered.

In the case of removing any and all import restrictions for the import of flour, there are many questions without ready answers. What is the market for specialty flours? This means, what is the market for good quality flour, especially for bread production or pasta production? Total market demand, processor utilization of flour, baker utilization of flour, and direct consumer use are only being guessed at. Is there a market for flour other than the flour now produced by Prima to GSL specifications? Nobody seems to know.

If an assumption is made that the market was opened to import some 5% of consumption or approximately 25,000 tons under a set of specification minimums for bread and pasta production, what would be the result? Strict specifications are required, otherwise a low quality product will be imported. Analysis reveals that imported flour has a definite cost disadvantage compared to imported wheat. Flour imported under commercial circumstances would have a premium price. The premium price under price decontrol would be nearly Rs 6 per kilogram of flour over domestically

produced flour. It is considered highly unlikely that the flour could be sold, or that any importer would consider such a venture.

In the case of internal production, Prima has enormous milling capacity. It has five milling units. It could mill flour destined for specific markets. The development of a market analysis unit could determine what the specific requirements are within the total flour market. They could determine if the requirements were large enough to warrant Prima changing its operations to mill runs of different specifications. The unit could assist the private sector in mobilizing for purchase through an association structure.

Wholesale and Retail Operations of CWE

GSL needs to decide whether CWE is a commercial organization, or a governmental agency responsible for social actions as required which are supported by commercial activities. It cannot be both. The weak financial position of the firm, the losses shown in the retail store sample, and specific losses incurred in individual commodities are indicators of the need for change.

The CWE trading activities are over Rs 5 billion annually. This is equivalent to US\$ 124 million. Yet, this organization does not have a cost accounting system. CWE needs to install a cost and management accounting system so as to be able to measure sales and costs by operating unit, commodity, and product on a continuous basis. Without such a system, results will generally be unknown until the financial accounts are closed for the year. And even then, there will be no major specific information about what actually caused profits or losses. Regardless of the quality of management within CWE, it cannot function properly without current, detailed, and accurate information. The lack of accounting on a commodity basis and the method of wholesale sale of goods to the CWE retail stores strongly supports this need.

The retail store sample reveals that the retail store system is essentially utilized as a pass-through system for the wholesale sales organization. The retail store system is not operated as either one profit center or as individual profit centers. The lack of earnings, as shown in the retail store sample, indicates a lack of management control over these enterprises. This is supported by the fact that the retail store sample was given an automatic bias of 15% product margin, yet gross operating margins for most stores were negative. The analysis reveals that direct operating costs for a majority of stores are far less than 15% of sales. Consequently, there should have been substantial net operating profits in the retail store sample. There were not. If the sample is extrapolated to represent the total system, the results show serious losses.

The CWE wholesale sales have apparently concentrated on major food product items in which a monopoly was granted. Earnings in this concentrated group are superior to the wholesale commodity food group in total. It appears from the data provided that the wholesale portion of the CWE trading activities has provided the major portion of earnings for the organization.

Recommendations. There is a recognition of the need for adequate operating margins within the CWE organization. This is evidenced by the major increase in

gross operating margins and net operating margins in 1991. In 1991 gross operating margins in the wholesale commodity sample were over ten times greater than in previous years. In 1991 more retail stores were profitable, reflecting an increase in gross operating margins. Adequate margins must be maintained for all stores and all products merchandised.

An adequate cost accounting system needs to be installed so that CWE can (1) set adequate margins, (2) analyze and development management systems for cost control, and (3) determine strengths and weaknesses in store or commodity systems.

SECTION I

INTRODUCTION

Scope-of-Work

The scope-of-work addresses the following two issues which have been included as benchmarks in the 1992 PL-480 Title III Agreement between the Agency for International Development (AID) and the Government of Sri Lanka (GSL).

1. Study cost/price efficiency of the wheat flour distribution system (with reference to the Cooperative Wholesale Establishment (CWE) and the Food Department) and recommend implementation procedures and methods which will result in significant increases of efficiency and competitiveness.
2. Study the retail and wholesale operations of CWE and identify (1) unprofitable retail units and (2) uneconomic wholesale commodities.

Appendix I contains the complete statement of work

Conduct of Study

The analysis, conclusions, and recommendations presented in this study are based on the following information.

1. A study by the Lanka Asia Management Systems Company (LAMSCO), who were contracted by USAID/Sri Lanka to collect and analyze data relating to the two benchmarks set forth above as a preliminary work to this study.
2. Information provided by published references listed in Appendix II.
3. Information from unpublished material and contacts.

Wheat and flour importation and distribution costs, as well as the CWE retail store and wholesale commodity samples were limited to the 1988 - 1991 period. This time frame provides a recent five-year period for analyses and is within the limited resources with which to conduct the study.

SECTION II

THE WHEAT FLOUR DISTRIBUTION SYSTEM

Wheat for milling into flour is a totally imported commodity. Wheat for milling and flour is imported to provide an additional carbohydrate-base food stuff to augment rice consumption.

Major quantities of wheat and flour have been imported for well over 40 years. Originally, flour was the principal import. With the establishment of flour milling facilities in Sri Lanka, importation of flour declined and importation of wheat increased. These importation patterns are illustrated in Figure 1.

Trends in per capita availability of flour have shifted over time. Through the 1950s and early 1960s per capita availability declined as imports were reduced and domestic rice production increased. With the advent of major drought periods during the late 1960s and 1970s per capita availability sharply increased to meet the food needs of the population. With the return of normal weather patterns and the increased use of irrigation for domestic rice production, importation of wheat and flour declined. From 1981 to 1991 availability of flour has been stable, averaging 29 kilograms per capita. These trends are illustrated in Figure 2.

Historical Distribution System

The importation and milling of wheat, and the distribution of locally-milled and imported flour has been a government monopoly. Importation of flour and importation of wheat for milling was originally the responsibility of the Food Commissioners (FC) Department. This department was also responsible for storage, transport, and sale of flour. Wheat flour was a price subsidized and rationed commodity until the mid-1980s. At this time, subsidization and ration procedures were discontinued. Flour prices were fixed at price levels which were to cover costs of import, processing, distribution, and sale.

In April 1989 the importation of wheat for milling and flour was transferred to CWE. The FC's role was reduced to being the transportation and storage agent for CWE.

Structure of the Current System

The importation and milling of wheat, and the distribution of flour is still a government monopoly. The wheat and flour marketing channel is illustrated in Figure 3. Even though the importation of wheat for milling or flour, and the distribution of flour, is a government controlled monopoly, there is a mixture of both private- and public-sector entities in the marketing channels.

Wheat is delivered to the Port of Trincomalee for milling by Prima Ceylon Ltd. (Prima), a privately-owned flour milling complex, which is a subsidiary of Prima Flour Mills Ltd, Singapore. The milling complex consists of five flour milling units with a combined capacity of 3,200 tons per day. It has a silo storage

capacity of 120,000 mt for wheat and mill feeds, a bulk flour storage capacity of 15,000 mt, and a bagged-flour storage capacity of 40,000 mt.

Prima mills wheat under a 20-year contract with GSL which began in 1980. Prima is guaranteed an annual minimum of 435,000 mt of wheat for milling. Prima's contract with GSL specifies that the government will procure, transport, and deliver wheat and flour packaging material to the mill. Prima's responsibility is to mill the wheat into flour at an extraction rate of 74%. The flour is then turned over to GSL for distribution. The contract provides that Prima will retain the wheat bran and other by-products of milling as payment for milling. Bran and mill feeds are exported by Prima as animal feed ingredients.

The flour produced by Prima is a multi-purpose flour of 10.5% protein content as per the GSL specifications. The basis for multi-purpose flour is to provide one standard commodity which is used for many different end products.

The milled flour is bagged in 67 kg jute bags or 50 kg polyethylene bags. At this stage, it becomes the responsibility of FC to arrange transport from the Prima mill to the FC storage facilities. Transport from the mill to storage sites is by a combination of truck (FC Department or contracts with private sector), rail (government), and coastal ship (contracts with private sector).

From these storage facilities, flour is purchased by some nearly 300 MultiPurpose Cooperative Societies (MPCS's) throughout the country. From this stage, flour enters into the bakery, HRI, or processors system; or into the retail store system.

Title to wheat and the flour milled from the wheat remains with CWE. CWE receives payment from MPCS's or other agencies for flour purchased at the FC warehouses or mill door. FC acts only as a physical storage and distribution contractor to CWE.

The Role of the Participants

There are three major participants involved in this system: CWE, FC, and Prima. CWE is responsible for the importation of wheat, handling of all financial matters concerned with wheat imports (or flour imports) and flour distribution, and coordination of operations with Prima.

It has been explained that CWE is responsible for performing the following roles in the importation of wheat for milling and flour.

- Development and approval of an annual procurement plan, with a weekly monitoring process and updates of the plan as required.
- Procurement procedures such as specifications, tendering, and bid acceptance.
- Establishment and approval of flour prices at the FC warehouses and mill door, as well as wholesale and retail prices.
- Manage all financial details of all transactions.

- Coordinate all procurement and distribution actions with Prima and FC.
- Management and oversight of the sale of wheat flour from the FC warehouses or mill door. CWE is solely responsible for bearing the entire distribution cost plus overhead.

CWE prepares a wheat and flour procurement plan based on the production and marketing situation of food crops. On the basis of this information, a procurement plan is developed which indicates how much wheat should be imported and the timing of shipments. In order to make this decision, the information includes existing and projected storage capacity, milling capacity, buffer stock levels, and the availability of wheat under PL480 Title I, PL480 Title III, and EEP credits by the U.S.A. This plan is developed in conjunction with FC and Prima. This plan is then moved forward through the Ministry of Trade and Commerce, under which CWE operates, to Treasury, Ministry of Finance, and the Cabinet level.

Once the procurement plan is decided, tenders are put forth by the Purchasing Committee of CWE in consultation with FC and Prima Ceylon Ltd. When bids are approved, CWE then negotiates the contract, opens a letter of credit if so required, and coordinates all other activities of the delivery.

Buffer Stock Policy

Since importation of wheat and flour are to provide an additional carbohydrate-base food stuff to augment rice consumption, there is a buffer stock policy. This policy addresses not only the issue of food security, but also management of product flow. Since the product is 100% imported, buffer stocks are considered necessary to provide a constant flow of flour to the consumer. At the present time, GSL attempts to maintain a two-month buffer stock of wheat for milling and a two-month buffer stock of flour in storage.

Price Policy

Fixed prices for flour were historically established at different points in the distribution channel. Prices were set for the sale of flour at supply station locations (FC warehouse regardless of location), mill door location (for sale of flour without movement to FC warehouses), and for wholesale and retail sale of flour regardless of location. Historically, the fixed prices were set by the operating agency and then moved to the relevant Ministry and then to Treasury, Ministry of Finance, and Cabinet level for approval. A schedule of such prices is provided in Table 1.

In October 1992 all prices were decontrolled by GSL. Bread prices were also liberalized at this time. Currently, it is CWE's responsibility to establish prices at the FC warehouses or mill door based on the cost of imported wheat, direct costs incurred in the milling and bagging of flour, transport and storage cost, and other costs related to the conduct of business. The Ministry of Trade and Commerce is informed and has the right to comment.

TABLE 1
SCHEDULE OF FIXED FLOUR PRICES
(Rupees per Kilogram)

<u>Date</u>	<u>Supply Station</u>	<u>Mill Door</u>	<u>Wholesale</u>	<u>Retail</u>
1987	7.25		7.45	7.90
1988	7.25		7.45	7.90
1989				
July	7.85		8.05	8.50
August	8.75		8.95	9.40
October	9.65	9.40	9.85	10.30
November	9.95	9.70	10.15	10.60
December	10.85	10.60	11.05	11.50
1990				
February	11.45	11.20	11.80	12.25
March	12.35	12.10	12.70	13.15
May	13.45	13.25	13.80	14.25
December	12.45	12.20	12.80	13.25
1991				
January	11.45	11.20	11.80	12.25
1992				
	---Decontrolled Set by CWE---			
October	10.95	10.70	---Decontrolled--- Suggested Price	
			11.30	11.75

Source: Food Commissioners Department
Cooperative Wholesale Establishment

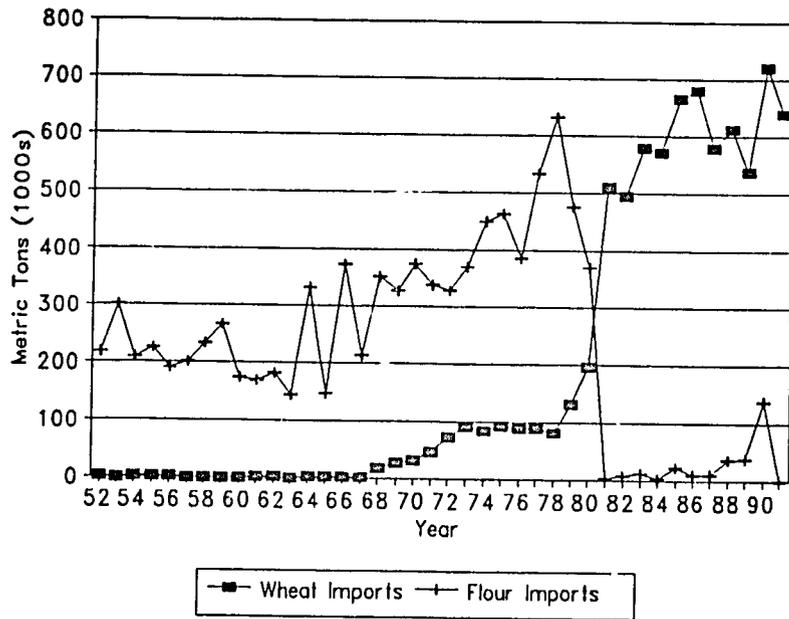


Figure 1. Importation of Wheat and Flour.

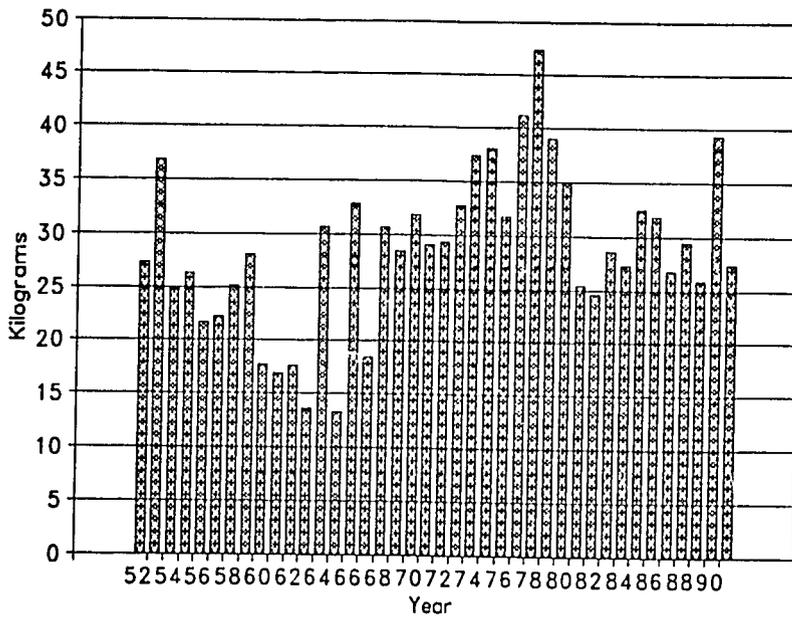
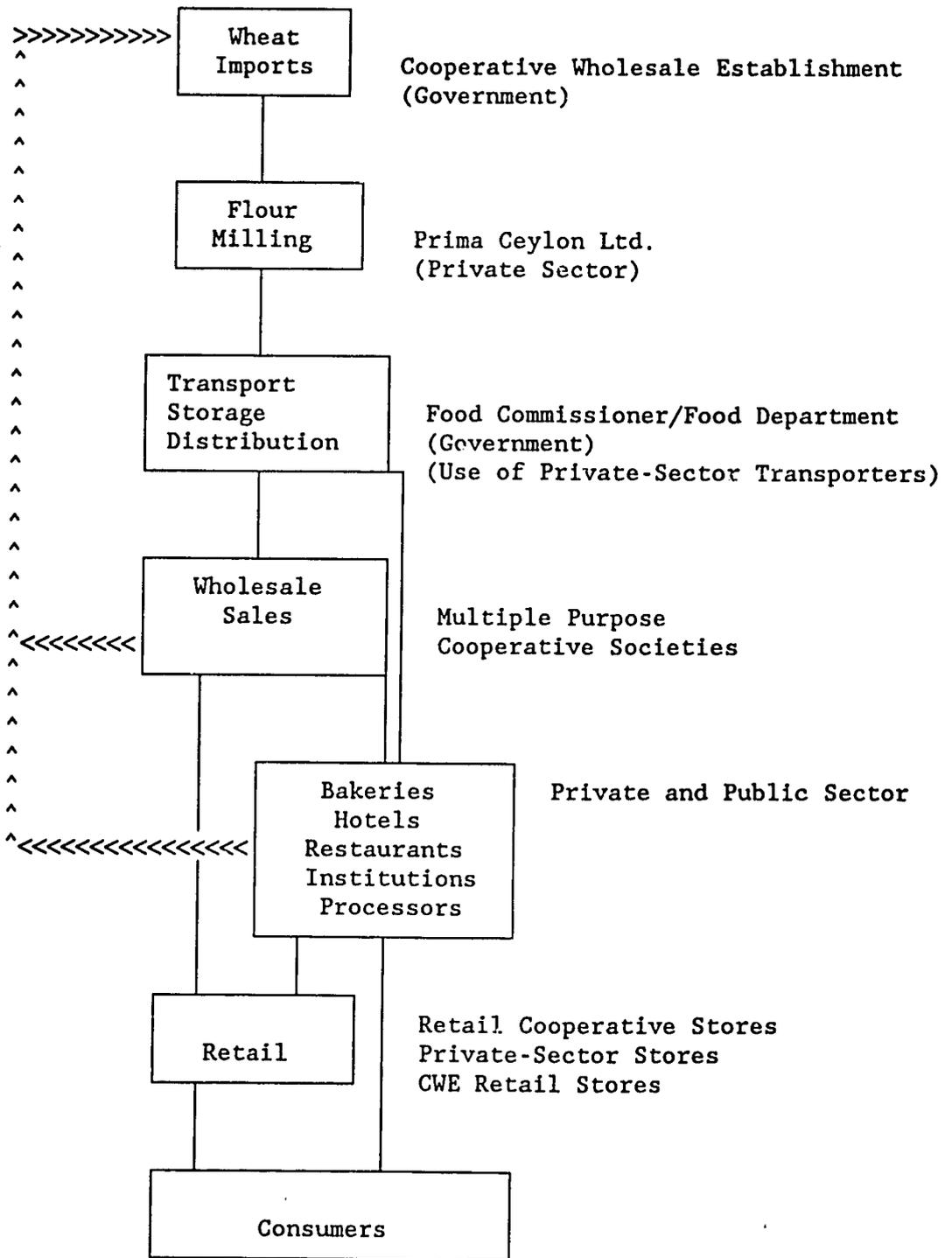


Figure 2. Per Capita Availability of Wheat Flour.



————— Product Flow

>>>>>>>>>> Money Flow

Figure 3. Marketing Channel for Imported Wheat and Distribution of Wheat Flour.

SECTION III

COST EFFICIENCY OF THE SYSTEM

The categories of costs arising out of the importation of wheat and the distribution of flour may be classified as commodity cost (wheat, freight, and insurance), import charge (duties, port dues, landing costs), direct cost (finance, bags, electrical, interest), distribution cost (transport and storage of flour), and overhead cost (administration). A detail of costs per kilogram of flour by year is provided in Table 2.

To measure the economic or cost efficiency of any particular system means that there must be a base to measure against. Since this is a sole-source monopoly, there is no competitive or industrial base to use as a measurement. Therefore, measurements will have to be made against many different base points.

Total Costs

Total costs have increased from 1.709 to 4.281 Rupees per kilogram of flour from 1987 to 1991 as described in Table 2. If these costs are measured against an inflation tract for these costs, the increase in total costs from year-to-year closely approximates the inflation factor. This is illustrated in Figure 4. Further, as illustrated in Figure 4, if the total costs for 1991 are adjusted to reflect the huge increase in port charges, then the increase in total cost closely approximates the inflation track. With this exception, costs in total are not out of line with the 1987 base year.

Import Charges

As mentioned above, and as shown in Figure 5, import charges increased dramatically in 1991. Import charges were only 9% of total costs in the 1988 - 1989 period when FC was responsible for imports. It is not known whether FC, as a governmental agency, had duty and customs exemptions when it imported wheat and flour.

In the 1989 - 1990 period, import charges rose to 20% of total cost. In 1991 import charges rose to 48% of total cost. An analysis of import charges in the CWE cost sheets in Appendix VI generated the following results.

Import Charges as a Percentage of Total Landed Cost

	<u>1990</u>	<u>1991</u>
Duties	2.23	20.82
Clearing	0.48	0.69
Other	3.52	1.89
Insurance	0.24	0.21

It reveals that the cause of the major increase in import charges is due to the imposition of duties on wheat and flour imported by CWE of GSL. This increase

accounts for 75% of the difference between 1987 total cost and 1991 total cost as given in Table 2.

Import duties were removed beginning in January 1992. It is stated that the purpose of the import duties, which were imposed in late 1990, was to repay the Treasury for the amounts granted as subsidy in 1989 to cover losses during the transition period when the wheat flour system was moved from the FC management to management by CWE. The amount of import duties for late-1990 plus 1991 match closely with the losses sustained in 1989 by FC and CWE.

The duties imposed amounted to Rs 0.223 and 1.826 per kilogram of flour for 1990 and 1991, respectively. When subtracted from import charges, the remaining balance is Rs 0.407 and Rs .228 for 1990 and 1991, respectively. This results in import charges being in a relatively narrow range of expenditure and it fits within the inflation track.

Milling Cost

Milling cost is not included in the total cost table. Prima's milling fee is the bran and mill feeds that result from milling of flour and the sale of flour overrun. This agreement is considered to not be cost excessive since most flour mills rely on the sale of bran, mill feeds, and flour overrun to produce the milling margin necessary to cover operating costs.

Distribution and Storage of Flour

Distribution cost movement over time is illustrated in Figure 5. Since the system was shifted to two operating agencies in 1989 rather than one, these costs may not accurately reflect the real situation.

FC still has management and overhead costs for transport, storage, and handling of flour. Given this, a measurement of distribution costs plus overhead costs was made to test whether these combined costs revealed any irregularities. Distribution costs added to overhead and tested against an inflation track are depicted in Figure 6. The combined costs increase at a rate close to the inflation track till 1989 and then are substantially under the track for 1990 and 1991.

The next test was to determine the FC costs under the Rs 0.93 per kilogram fee which FC receives from CWE under contract for transporting and storing wheat flour. Available data was limited. An analysis of available data resulted in a calculated table for transport cost, handling and storage cost, administrative cost, and loss allowance for FC. This is described in Table 3. The 1987, 1988, and 1989 costs were based on data supplied. The 1990 and 1991 costs were developed by indexing. The loss allowance granted by CWE is to cover normal handling losses. Calculated total costs are well under the Rs 0.93 fee for 1989 and 1990, and are nearly equal to the fee in 1991. However, if actual losses are included, then the results are far different.

Actual losses are calculated (Table 4) and valued based on supply station price less distribution fee. The results detailed in Table 3 reveal that with actual

losses included in the cost calculation, the Rs 0.93 fee does not even begin to cover real costs incurred by FC, with the exception of 1989.

There are two items of costs that cannot be rationalized, correlated, or reconciled with other available data. They are transport cost and the loss allowance.

In the case of transport cost, if the truck rates provided in Appendix VIII are correct, then there is a great distortion in the distribution system. A comparison of transport cost based on a ton/kilometer basis is provided as follows.

	(Rupees per ton/kilometer)				
	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
FC Transport Cost	1.46	1.45	1.48	1.79	2.00
Premium Truck Rate	<u>0.86</u>	<u>0.86</u>	<u>0.86</u>	<u>1.08</u>	<u>1.22</u>
Difference	0.60	0.59	0.82	0.71	0.78

The premium truck rate was constructed using the highest scheduled rate and adding a premium of 25%. This strongly suggests that the distribution system operated by FC is either inefficient or is distorted. It is understood that most of the flour is shipped to Colombo and Galle warehouses and sold from these sale points.

The loss allowance is overstated. A loss allowance of 1.5% of product cost is allocated in the Rs 0.93 fee paid to FC. This assumes an automatic loss of 1.5% of product. The monetary allowance given for this projected loss is stated to be Rs 0.229 per kilogram of flour. First, the percentage allowance is too high. At most, it should not exceed 1.0%. If a 1% loss allowance is based on total cost (as per Table 2) less the distribution fee, then the result is as follows.

	(Rupees per Kilogram Flour)		
	<u>1989</u>	<u>1990</u>	<u>1991</u>
FC Loss Allowance	0.229	0.229	0.229
Correct Allowance	<u>0.118</u>	<u>0.109</u>	<u>0.101</u>
Difference	0.111	0.120	0.129

Losses

Losses of flour are presented in Tables 4 and 5. Unaccounted losses as per the FC data in Table 4 range from 1.8% to 5.2% of product handled. Most likely this is not a physical loss per se, but simply pilferage (otherwise known as leakage). If this is a result of physical damage to bags and the consequent loss of flour, we must have flour scattered from hell to breakfast.

Although these losses are being underwritten by FC, there is an economic loss to the system. Since FC is unable to cover such a magnitude of loss within the Rs 0.93 per kilogram fee, GSL is, in effect, subsidizing this loss.

The consequence is that the actual cost of wheat imports and flour distribution is higher than stated. It is as follows in terms of Rs per kilogram of flour.

	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
Total Cost (1)	1.709	1.789	2.225	2.487	4.281
Economic Loss due to Stock Loss (2)	<u>0.168</u>	<u>0.140</u>	<u>0.000</u>	<u>0.436</u>	<u>0.401</u>
Total Real Cost to System	1.877	1.929	2.225	2.923	4.681

(1) Table 2

(2) Calculated based on Table 3: Actual loss less loss allowance

The stock loss has increased costs by 25% annually over the sample period.

Losses may be worse than as stated by FC. The CWE Food Department Account statements in Appendix III have an ending stock balance titled "Stock Shortage." This is the difference between receipts from Prima by FC less sales less ending physical stock balance. CWE states that it charges this shortage back to FC by withholding shortage costs from payments for services.

A calculation of stock loss based on the CWE Food Department Account (Appendix IV) is presented in Table 5. The calculated losses for 1989 are 2.9 times greater than the statement by FC (Table 4). However, in 1990, stock losses per CWE accounts were only 1.1 times greater than the statement by FC.

Direct Costs

Direct costs are presented in Table 2 and illustrated in Figure 7. Direct costs remained stable from 1987 to 1990, with a relatively sharp increase in 1991. The increase in 1991 is a result of increased interest costs which account for two-thirds of the rise in direct cost. CWE no longer receives a preferential interest rate on borrowed capital and must pay a commercial rate of interest.

Other categories composing direct costs have fluctuated over time within a relatively narrow cost band. While electrical charges (generator at flour mill) showed an increased cost when CWE became responsible for operations, the level of cost has remained stable and the low costs for 1987 and 1988 may either be an understatement of actual costs or lack of maintenance expenditures.

Administrative Cost

Overhead cost as described in Table 2 and illustrated in Figure 7, has declined over time. Since overhead cost is generally an allocated cost, the only way to test the viability of such a cost is how the allocation process was decided. For 1989 and 1990 CWE allocated overhead cost as 1% of the cost of goods sold. For 1991 CWE allocated overhead cost as 2% of the cost of goods sold.

Allocation of overhead cost procedures for the 1987, 1988, and 1989 FC operation of the system is unknown. It appears, from calculating given costs, that the allocationment was approximately 9% of cost of goods sold for 1987 and 1988. As

a percentage of total costs, overhead has rapidly declined during the sample period. The percentages are as follows.

<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
27.4	31.0	16.1	6.2	7.7

With overhead cost being such a small percentage of total cost at this time, any warranted reduction in overhead cost would have little impact on total cost. If overhead cost is reduced by 10%, it will only cause a reduction of 0.8% in total cost. Variability in other costs would quickly erase any gains in reducing overhead costs. The apportionment used by CWE is considered fair, and only an in-depth accounting audit could provide better answers.

Imported Wheat

The CIF cost of wheat and the total cost of product is illustrated in Figure 8. The CIF cost of wheat was the predominant factor in total product cost until 1991. When total cost increased due to imposition of duties and increased interest costs, it became less of a predominant factor.

The CIF cost of wheat measured against export price levels in the U.S. is shown in Figure 9. The cost of wheat and the price representing an international price move closely together over time. The difference between the two levels is accounted for by U.S. port handling, ocean freight, and insurance. The two price levels are highly correlated. The increased spread in 1989 and 1990 can be accounted for by increased handling cost, a rise in insurance premiums, and ocean freight cost due to the "Gulf War."

Conclusions

- In general, the system is cost efficient with two major exceptions, that of losses and distribution expense.
- Costs, with the exception of duties and interest, have increased at rates less than or equal to the general inflation rate in Sri Lanka. Duties, being discontinued in 1992 have brought import charges in alignment with the inflation trend.
- The interest cost rise reflects the liberalization and commercialization of the Sri Lankan business community. CWE should not be given preferential treatment. It is deemed to be a commercial enterprise, although government owned.
- The relationship between the CIF import cost of wheat and international prices as represented by the U.S. price is highly correlated. Cost of imported wheat is dictated by the international market. No fault can be found with import cost of product.
- Final product cost price is more driven by the import cost of product than by costs associated with importation, milling, and distribution. Costs as

a percentage of final product cost have remained fairly constant throughout the five-year period. They are as follows.

<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
24	18	18	19	39
				(22)

The 1991 costs without the increase in interest and addition of duties would be 22%.

- Costs are not considered to be excessive nor is there any way that CWE can control the cost of interest.
- Losses are considered excessive and have an economic impact. Someone has to pay for the loss, and since government is the only entity involved, it is the one paying for the cost of excessive losses.
- The actual cost of distribution is highly suspect. The cost of transport seems highly excessive. It is possible the distribution configuration is the cause.
- The loss allowance granted to FC should be lowered and brought into line with what is actually correct and possible.
- Physical stock loss is excessive. The situation has not improved over time.
- In summary, the costs over which CWE has control seem to be well controlled. Whether CWE really exerts a cost control effort is not known. The results during 1990 and 1991 are satisfactory. However, the losses and cost irregularities under FC control need to be resolved.

TABLE 2
COSTS PER KILOGRAM OF FLOUR BY YEAR
(Rupees per Kilogram)

	1987	1988	1989	1990	1991
CIF Price	5.344	7.739	10.327	9.380	6.720
Import Charges	0.129	0.170	0.358	0.630	2.050
Distribution	0.407	0.382	0.797	0.930	0.930
Direct Costs					
Packing Material	0.515	0.406	0.359	0.429	0.489
Electrical Charges	0.012	0.032	0.056	0.051	0.056
Insurance	0.001	0.001	0.000	0.001	0.002
Bank Interest	0.219	0.178	0.347	0.293	0.424
Total	0.747	0.617	0.762	0.774	0.971
Overhead	0.468	0.524	0.358	0.153	0.330
Total Cost (1)	1.709	1.693	2.275	2.487	4.281
Total Cost Less Duties	1.709	1.693	2.275	2.264	2.455
Total Cost Imported Wheat	7.053	9.432	12.602	11.867	11.001

(1) Import charges, distribution, direct costs, and overhead.

Source: Appendixes IV, V, and VI

TABLE 3

CALCULATED TRANSPORT, HANDLING, AND STORAGE CHARGES
FOOD COMMISSIONERS DEPARTMENT
(Rupees per Kilogram Flour)

Category (1)	1987	1988	1989	1990	1991
Transport	0.365	0.363	0.370	0.448	0.500
Storage/Handling	0.042	0.019	0.029	0.035	0.050
Administration (2)	0.468	0.524	0.113	0.136	0.150
Loss Allowance (3)	0.000	0.000	0.229	0.229	0.229
Total	0.875	0.906	0.741	0.848	0.929
Transport Rate			0.93	0.93	0.93
Actual Losses	0.168	0.140	0.126	0.436	0.401
Total	1.043	1.046	0.867	1.284	1.330
Flour Received	474161	487796	540304	472882	
Flour Distributed	486677	522623	569134		
Flour Transported	460623	497128	423747	621999	505999

(1) 1987, 1988, 1989 based on data supplied. No data was provided for 1990 and 1991. 1990 and 1991 developed by indexes.

(2) Prorated downward in 1989 to account for shift in system management to CWE.

(3) CWE allows FC a loss allowance of 1.5% of goods in original agreement. This amounts to a monetary value of 1.5% of cost of wheat flour based on 1989 costs.

Source: LAMSCO, Food Commissioner, Cooperative Wholesale Establishment, Table 4

TABLE 4
LOSSES IN THE DISTRIBUTION SYSTEM
FOOD COMMISSIONERS DEPARTMENT
(Metric Tons)

	1986	1987	1988	1989	1990
Beginning Inventory	42,760	43,863	29,555	18,608	16,653
Receipts from Prima	510,066	484,163	523,689	577,296	609,885
Distributed	482,781	486,677	522,683	569,121	493,045
Salvage	228	519	335		14
Calculated Loss	25,954	11,275	11,618	10,130	22,314
Ending Inventory	43,863	29,555	18,608	16,653	111,165
Loss Percentage	5.2	2.3	2.2	1.8	4.0

(1) Sold for feed.

(2) Beginning inventory + receipts - distribution - ending inventory.

Source: Food Commissioner Annual Reports, Food Commissioner

TABLE 5
LOSSES IN THE DISTRIBUTION SYSTEM
COOPERATIVE WHOLESALE ESTABLISHMENT

	1989	1990	1991
Stock Shortage (Rs)	286,235,582	293,399,834	202,873,119
Average Price (Rs/Kg)	8.58	11.73	11.45
Tonnage Short (Mt)	33,361	25,013	17,718

Source: Appendix III

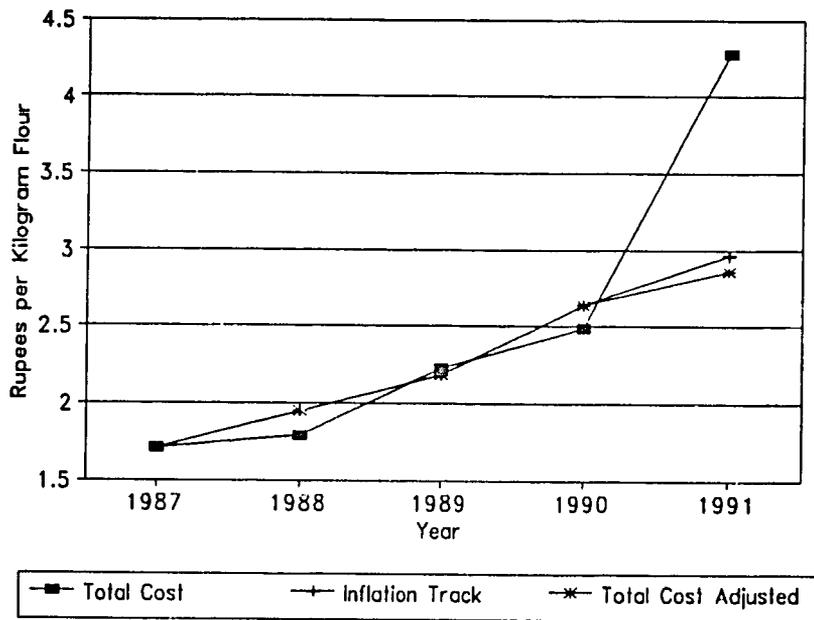


Figure 4. Wheat and Flour Importation and Distribution Total Costs.

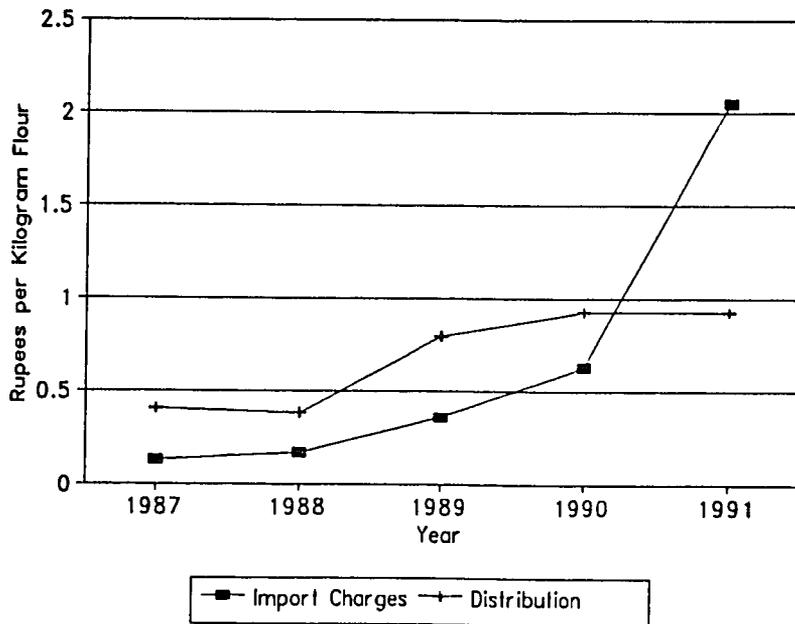


Figure 5. Import Charges and Distribution Costs.

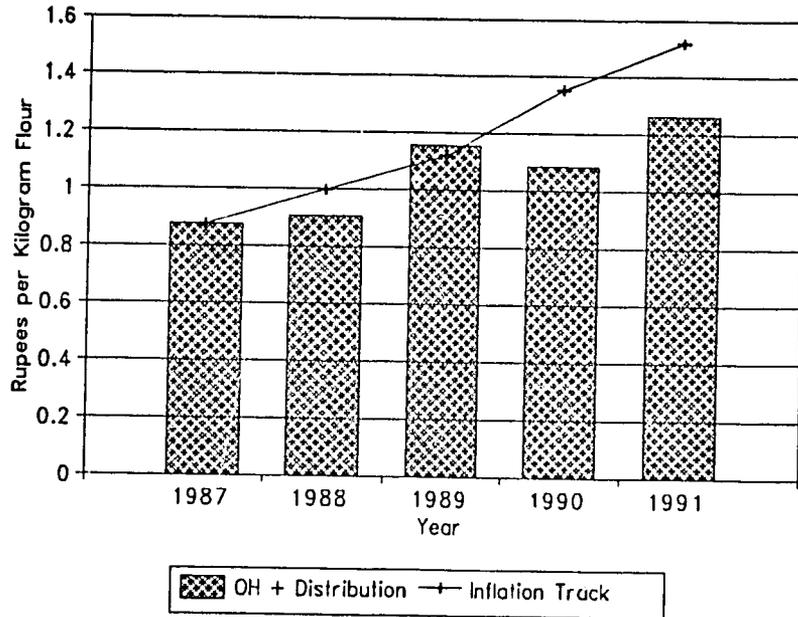


Figure 6. Overhead Plus Distribution Cost with Inflation Track.

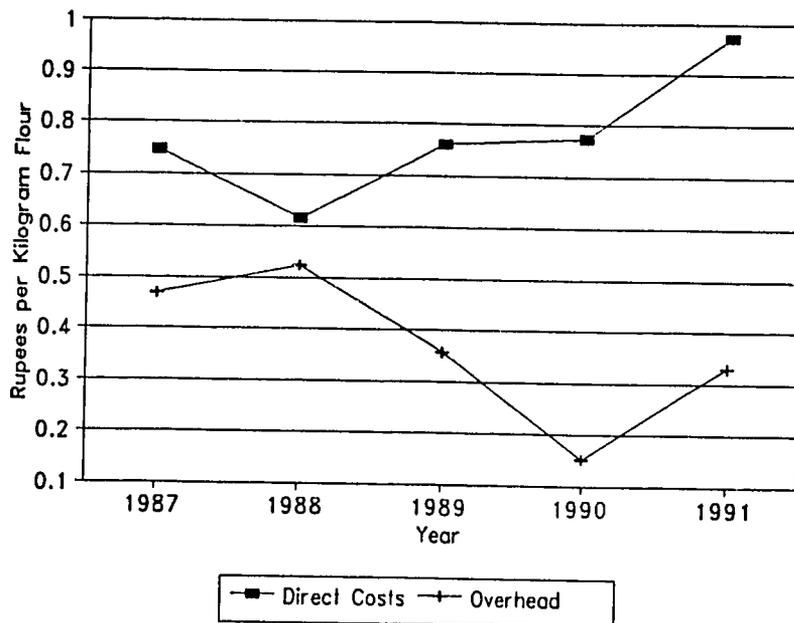


Figure 7. Direct and Overhead Costs.

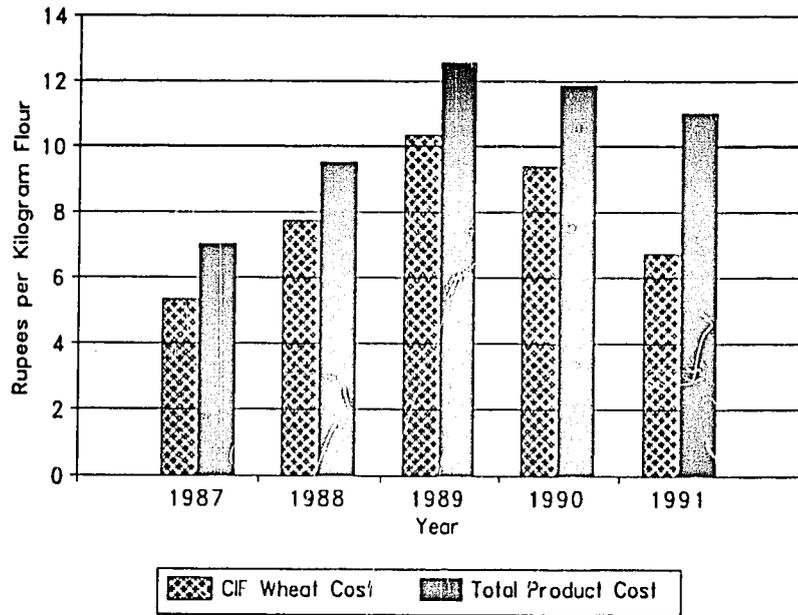


Figure 8. The CIF Wheat Cost and Total Product Cost.

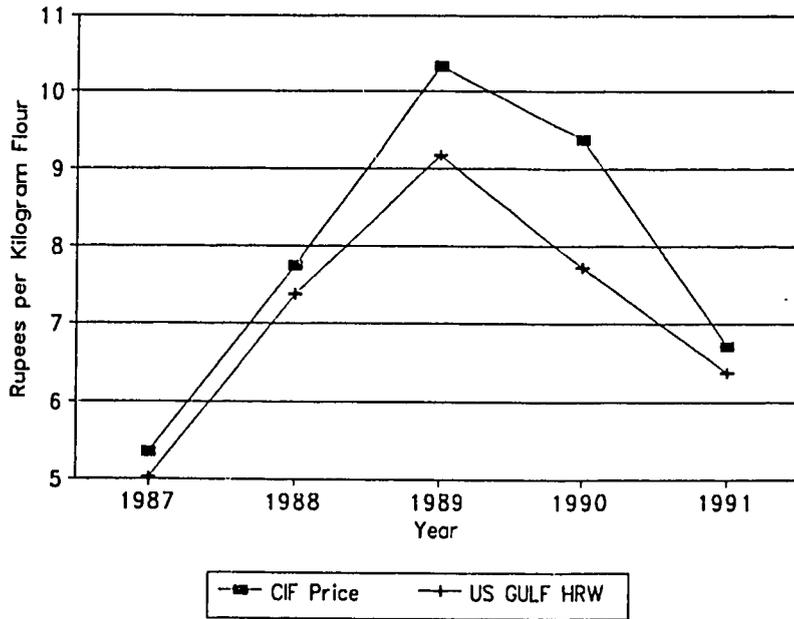


Figure 9. The CIF Import Price of Wheat Compared to Price of Wheat, U.S. Gulf.

SECTION IV

PRICE EFFICIENCY OF THE SYSTEM

Price efficiency will have to be measured using such criteria as system costs, import price, price at different points in the distribution channel, and relative indexes. This is a government monopoly and there is no competitive base against which to measure.

The measurement has two components: the fixed price system which was in effect until October 1992 and the new decontrolled price system.

Price Formulation

Fixed prices for flour were historically established at different points in the distribution channel. These pricing points and their fixed prices are shown in the price schedule in Table 1.

In October 1992 all prices were decontrolled by GSL. Currently, it is CWE's responsibility to establish price at the FC warehouses or mill door.

It is stated that pricing of wheat flour is done on a no-profit, no-loss basis. In other words, prices are based on all costs with no margin for profit, but a sufficient enough price to accommodate minor shifts in operating costs.

The current pricing procedure is basically one of using a budget cost sheet which carries the CIF price of wheat and all relevant cost data for the purpose of arriving at a price for flour at supply station point. An example of such a cost sheet is provided in Table 6. This cost sheet constitutes the basis for change in supply station and mill door price.

Price to Price Relationships

Since the mid-1980s, after discontinuation of the rationing of flour and the subsidation of flour price, there have been government imposed fixed prices throughout the distribution system until late 1992. The fixed price schedule is shown in Table 1.

Wholesale and Retail Margins. Figure 10 illustrates the movement of these fixed prices over time. From 1975 to 1990 the price margin between supply station point (FC warehouse) and wholesale point was Rs 0.20 per kilogram. In 1990 this margin was increased to Rs 0.35 per kilogram and remained at this rate until wholesale prices were decontrolled in October 1992. The margin between wholesale price and retail was fixed at Rs 0.45 and remained at this level until decontrol. The rationale for such fixed margins is unknown.

If one assumes that the fixed margin in 1987 was sufficient, but not excessive, then there are some inconsistencies in the setting of margins. As shown in Table 7, the margin as a percent of sales price was maintained by the wholesale sector due to the increase in the price margin in 1990. However, the retail sector's margin as a percent of the sale price gradually declined over time.

The wholesale price margin indexed for inflation is shown in Figure 11. The increase made in 1990 in the wholesale margin brought the margin in line with the margin indexed for inflation.

However, the retail section did not fair as well as the wholesale sector. Their margin as a percent of sales declined 35%. The retail price margin indexed for inflation is shown in Figure 12. The results are evident. Margins are not adequate in the retail sector given the assumption they were fair in 1987 and that the adjustment in the wholesale margin reflected the rising costs of doing business. If the retail margin had been adjusted to reflect the impact of inflation, then the resulting margin as a percent of the sale price in 1991 would be approximately the same as in 1987.

Import Wheat Price Relationship to Supply Station Price. The major price setting procedure involves the setting of supply station price (the FC warehouse) based on the import price of wheat and flour. Three major items affect the import cost of wheat: changes in wheat prices, changes in ocean freight rates, and the continuing decline of the Sri Lankan rupee against the U.S. dollar. Wheat prices and currency discount are the major contributors to changes in the CIF import prices over time.

The average annual CIF wheat import and supply station price are compared in Table 8 and Figure 13. Up to 1988 the margin between the CIF price and the supply station price was positive. In 1988 and 1989 the margin was negative. Supply station price adjustments beginning in mid-1989 and continuing to mid-1990 brought supply station price in alignment with the increased CIF price. This resulted in again achieving a positive margin required to cover costs.

The ability of GSL to respond to changes in the CIF wheat import price is presented in Figure 14. This figure illustrated the movement in landed cost of wheat as compared to adjustment in the fixed supply station price. The import price of wheat increased in 1988 and reached a peak price in mid-1990. The fixed supply station price was continuously adjusted from mid-1989 to mid-1990 to reflect the increased price of imported wheat. The difference between the two price tracks is the margin available to cover all costs after the milling of wheat.

Mill Door Price Versus Supply Station Price. The price of flour delivered to purchasers at mill door is presented in Table 1. The discount of Rs 0.25 below the price set for supply station cannot be reconciled with cost factors involved with sales at mill door point. There is no transport or storage by FC. If the calculated costs for FC, as presented in Table 3, are a close representation of actual costs, then only certain categories of these costs should be added to the cost of flour after bagging to create a mill door price. Based on current price, the following exists:

Cost of product after bagging	Rs 10.02
Mill door price	<u>10.70</u>
Margin	0.68

If FC were allowed handling and administrative costs for sales at mill door, as per Table 3, then the mill door price should be as follows:

Cost of product after bagging	Rs 10.02
FC Costs	
Handling	0.05
Administration	<u>0.15</u>
Price at Mill Door	10.22
Say	10.25

As prices are currently set, FC seems to be drawing a premium for mill door sales over costs of such sales. Even given the attributed costs resulting in a lower mill door price, FC should have a good deal. FC has been allocated full handling and full overhead cost. There are no transport costs. There is no loss, therefore no loss allowance.

Even with the current mill door price of Rs 10.70, why is more product not sold at mill door (note the flour received and flour transported data in Table 3)? If truck rates are applied to mill door price, the results are lower delivered cost from mill door than from supply station points. This is shown in Table 9.

The truck rates provided are viewed by the author with great suspicion. Normal truck rates tend to follow operating costs. On a ton/kilometer basis, normal rates tend to increase sharply to about 100 kilometers and then decline slowly after reaching that peak. The rates given in Appendix VIII decline steadily and with great rapidity over distance.

To achieve equality in delivered cost from either point, the truck rate from mill door has to be doubled.

Price to Cost Relationships

The basic stated price policy is to set the price of flour on a no-profit, no-loss basis. On an average annual basis, as shown in Table 7, this was achieved in only three out of the five years. The margins for these three years are not excessive. There is one element of cost not accounted for in Table 7. This is the 5% business turnover tax (BTT). If BTT is added to costs, then the margins for 1987, 1990, and 1991 are just barely sufficient to cover total costs plus BTT.

The ability of GSL to respond to increases in total product cost (increases in the CIF wheat import price plus increases in total operating costs) is presented in Figure 15. Figure 15 illustrates the movement over time of total product cost as compared to supply station price. The 1988 and 1989 results reinforce the average annual results discussed above: losses in 1988 and 1989, and a more or less adequate margin in 1990 and 1991.

Imported Wheat Versus Imported Flour

Flour imports have been relatively insignificant in terms of total available flour, except in 1990. Imported flour as a percentage of total available flour is as follows:

1987	1988	1989	1990	1991
2.3	7.3	8.5	20.5	0.0

Given the capability to mill wheat in Sri Lanka, are flour imports competitive with imported wheat milled into flour? Figure 16 compares the landed cost of imported wheat to landed cost of imported flour. The landed cost of imported flour has exceeded the landed cost of wheat except for the latter half of 1990. Over this time period, the landed cost of flour has exceeded the landed cost of wheat milled into flour by 17%.

Given this relationship, the total product cost of imported flour is compared to supply station price of flour in Figure 17. Losses exist for 1988, 1989, and the first half of 1990. Only in the latter half of 1990 is there any equality between price and cost.

The Consumer

Under the flour pricing policy conducted by GSL since the mid-1980s, the consumer has fared extremely well. Prices of flour have risen to reflect the increased cost of wheat imports as well as operating costs. However, the real price of flour has declined over time. The movement of current and real retail prices are illustrated in Figure 18. The real retail price of flour has declined 23% from 1985.

Conclusions

- The historical pattern of wholesale and retail fixed prices cannot be considered rational given the way margins were held in a fixed position and not adjusted over time to allow for the increased cost of doing business. However, with decontrolled wholesale and retail prices, this may no longer be an issue. Note that there is a set of suggested prices for wholesale and retail sale of flour (Table 1). Whether GSL can refrain from meddling with wholesale and retail prices remains to be seen. If prices are truly decontrolled, it should be expected that retail flour prices will move upwards to a range of Rs 12 to 12.25 per kilogram. This would be Rs 0.25 to 0.50 per kilogram above the current "suggested" retail price (Table 1). This would represent the establishment of sales margins in the range of the 1987 fixed price margins as a percentage of sale price.
- Supply station price establishment in 1990 and 1991 was sufficient to cover all costs.
- However, setting of supply station price throughout 1989 and 1990 was inflexible and the upward adjustment was apparently done with great reluctance. As illustrated in Figures 14 and 15, adjustment of supply station price in 1989 and 1990 was done well after the higher cost wheat flour entered the sale point. The wheat import prices in Figures 14 and 15 were lagged forward four months to represent the buffer stock and market flow effect.

- This lack of ready response to cost changes essentially created monetary losses in the system. These losses had to be covered by GSL and this amounts to subsidation of the system by GSL.
- Response to import price shifts have been greatly enhanced by the CWE control of operations, especially in a declining import price situation. Supply station prices have been adjusted downward along a track that fits well with total product cost (Figure 15).
- The rationale for mill door pricing can only be assumed to be one of providing a premium for the FC Department.

The inability to rationalize mill door price and transport cost implies there may be a distortion in the distribution system's economic efficiency.

- The rationale for the importation of flour at substantially higher prices than the milling of imported wheat is unknown. It is a small percent of the market and could be easily assimilated in the establishment of supply station price. There is no evidence that this is done.
- The decline in consumer price in real terms implies that there has been basic pricing policy derived beyond that of the no-profit, no-loss concept. There could be said to be a welfare economics approach to the pricing of flour since the only objective of the price policy is to provide the cheapest possible flour to the consumer.
- In summary, the pricing process as practiced by GSL is extremely inefficient. It has a history of creating monetary loss. It is not flexible. GSL does not quickly respond to increases in import product price changes. The distribution system may be economically distorted by a high margin (margin exceeding costs) at mill door.
- If prices have been truly decontrolled and CWE is to be solely responsible for establishing supply point sales prices, then pricing efficiency as measured against costs may improve. If the wholesale and retail markets are not interfered with, they will establish price based on consumer demand.

TABLE 6
COST/PRICE SHEET EXAMPLE

F.O.B. Wheat Grain			
Freight			
Total			
Cost (Wheat Flour Equivalent)		Rs/Kg	
C&F			
Insurance			
CIF			
Add:			
Stamp duties			
Port dues			
Duties			
Stevedoring			
Incidental expenses			
Total landed cost			
Administrative expense (1)			
Finance charges			
Distribution			
Wastage			
BTT			
Total Cost			

(1) Includes direct and administrative expenses.

TABLE 7
WHOLESALE AND RETAIL MARGINS
FLOUR DISTRIBUTION

Year	Average Retail Price	Margin	Margin as a % of Price	Average Wholesale Price	Margin	Margin as a % of Price
1987	7.90	0.45	5.7	7.45	0.20	2.7
1988	7.90	0.45	5.7	7.45	0.20	2.7
1989	8.78	0.45	5.1	8.52	0.20	2.4
1990	13.59	0.45	3.3	13.14	0.35	2.7
1991	12.35	0.45	3.7	11.80	0.35	3.0

TABLE 8

AVERAGE ANNUAL PRICE
C&F WHEAT IMPORT AND SUPPLY STATION
(Rupees per Kilogram Flour)

Year	C&F Import	Price Supply Station	Margin	Total All Costs
1987	5.343	7.25	1.91	1.709
1988	7.561	7.25	-0.31	1.789
1989	9.243	8.38	-0.91	2.225
1990	9.351	12.92	3.57	2.487
1991	6.701	11.45	4.75	4.281

Source: Appendix VII
Table 2

TABLE 9

DIFFERENCE IN DELIVERED COST
 SUPPLY STATION VERSUS MILL DOOR LOADING POINT
 TRUCK FREIGHT

Freight Rate	Kilometers	Freight Cost per Kilogram	Fixed Flour Price	Final Delivered Cost
Delivered from Mill Door, Trincomalee				
224	50	0.2240	10.70	10.92
224	75	0.2240	10.70	10.92
224	100	0.2240	10.70	10.92
200	125	0.2000	10.70	10.90
200	150	0.2000	10.70	10.90
200	175	0.2000	10.70	10.90
200	200	0.2000	10.70	10.90
200	225	0.2000	10.70	10.90
200	250	0.2000	10.70	10.90
Delivered from Supply Station, Colombo				
224	50	0.2240	10.95	11.17
224	75	0.2240	10.95	11.17
224	100	0.2240	10.95	11.17
200	125	0.2000	10.95	11.15
200	150	0.2000	10.95	11.15
200	175	0.2000	10.95	11.15
200	200	0.2000	10.95	11.15
200	225	0.2000	10.95	11.15
200	250	0.2000	10.95	11.15

Source: Appendix VIII
 Table 1

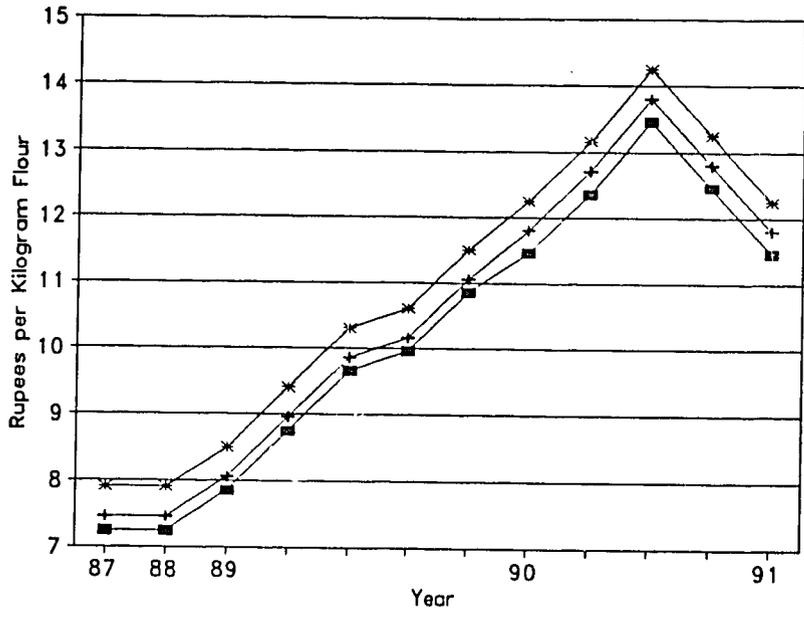


Figure 10. Fixed Prices of Flour at Supply Station, Wholesale, and Retail Points.

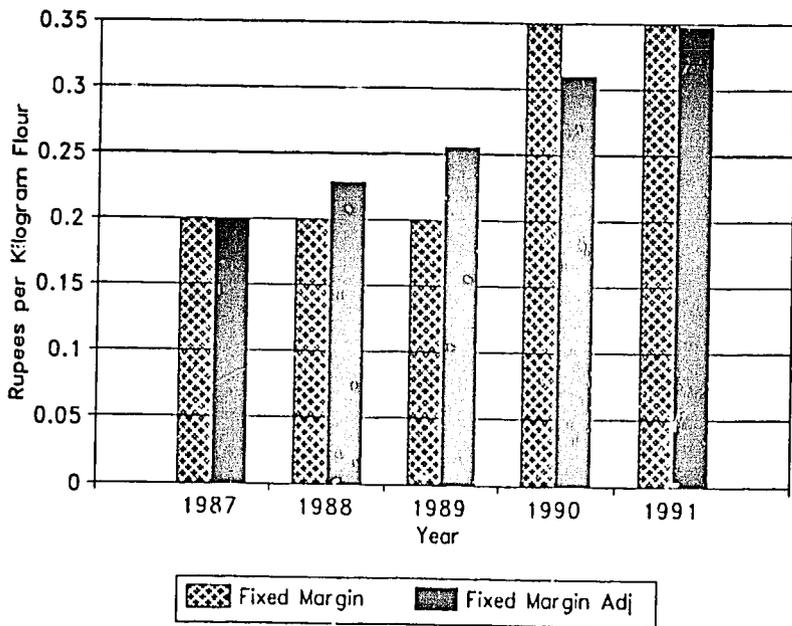


Figure 11. Fixed Wholesale Margin and Wholesale Margin Indexed for Inflation.

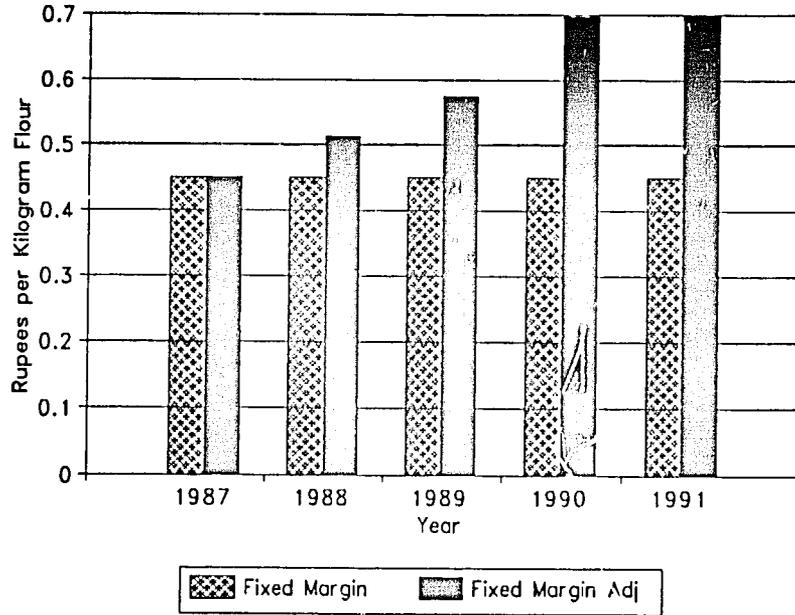


Figure 12. Fixed Retail Margin and Retail Margin Indexed for Inflation.

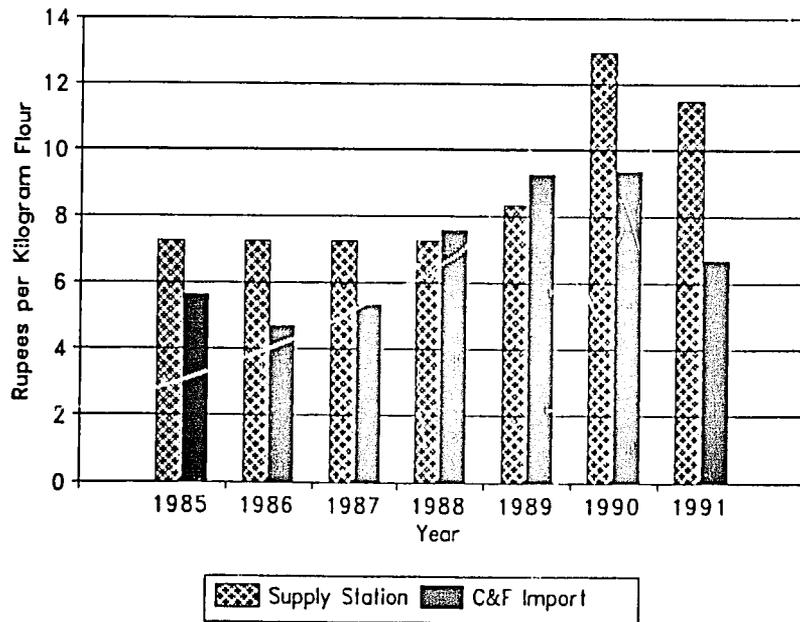


Figure 13. C&F Wheat Import Price (Flour Equivalent) versus Supply Station Price of Flour.

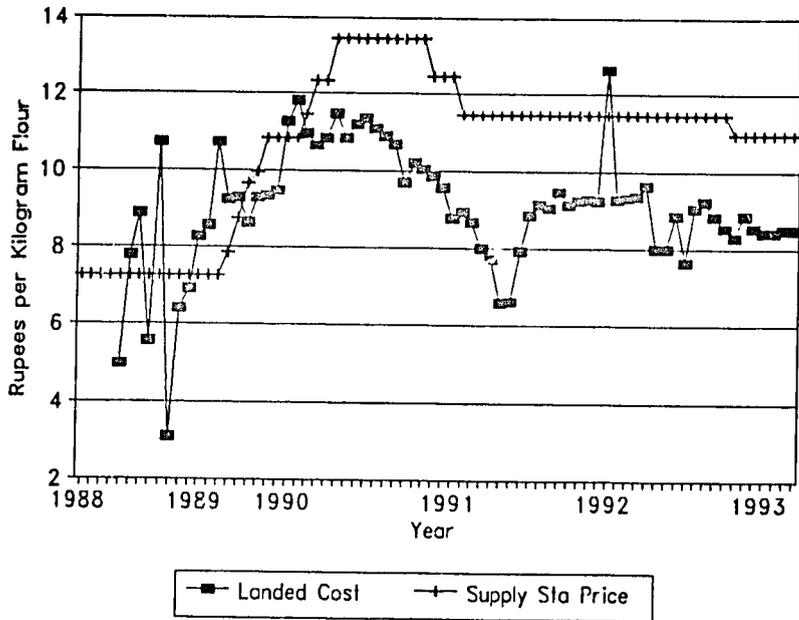


Figure 14. CIF Wheat Import Price in Terms of Total Landed Cost Compared to Supply Station Price Over Time.

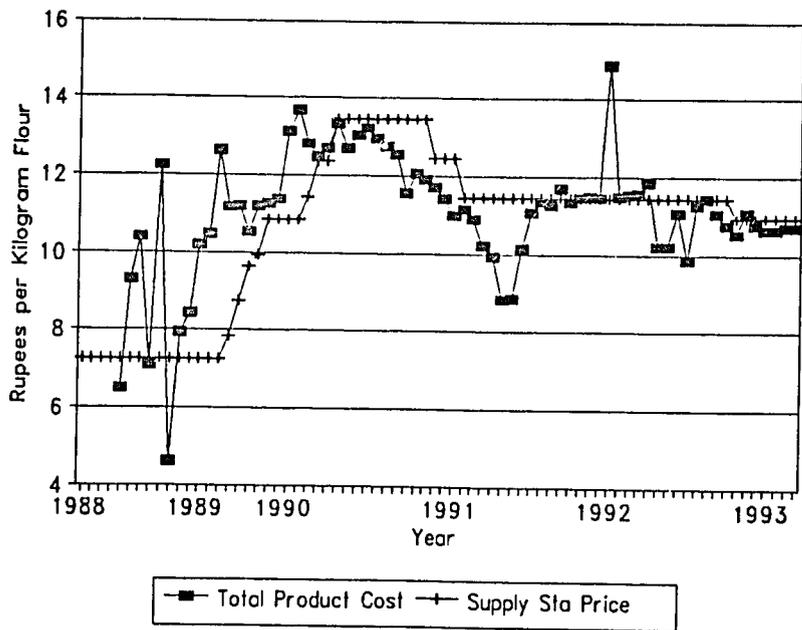


Figure 15. Total Product Cost Compared to Supply Station Price Over Time.

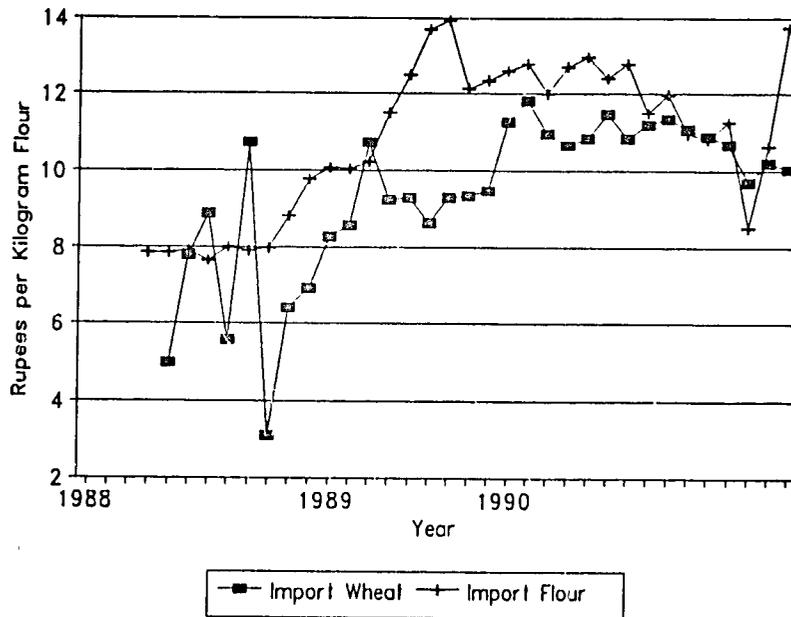


Figure 16. Landed Cost of Imported Wheat Compared to Landed Cost of Imported Flour.

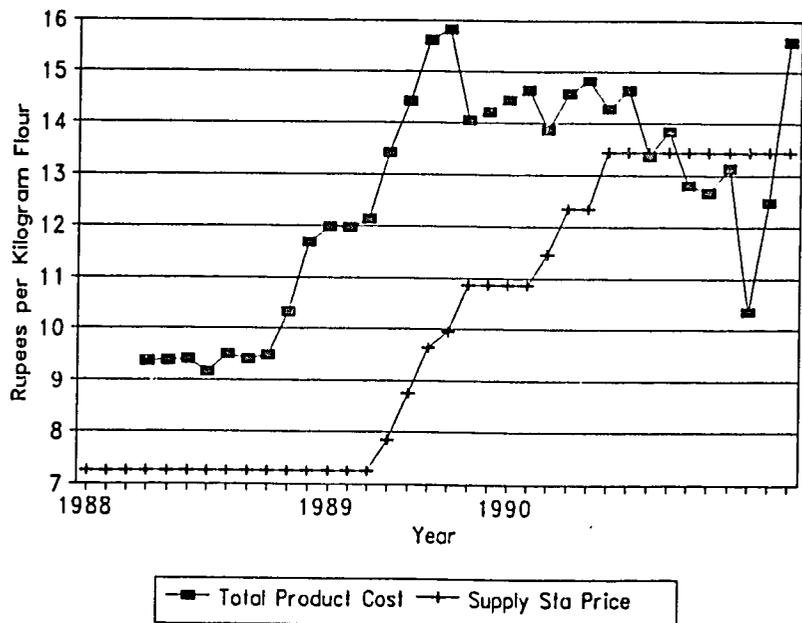


Figure 17. Total Product Cost of Import Flour Compared to Supply Station Price of Flour.

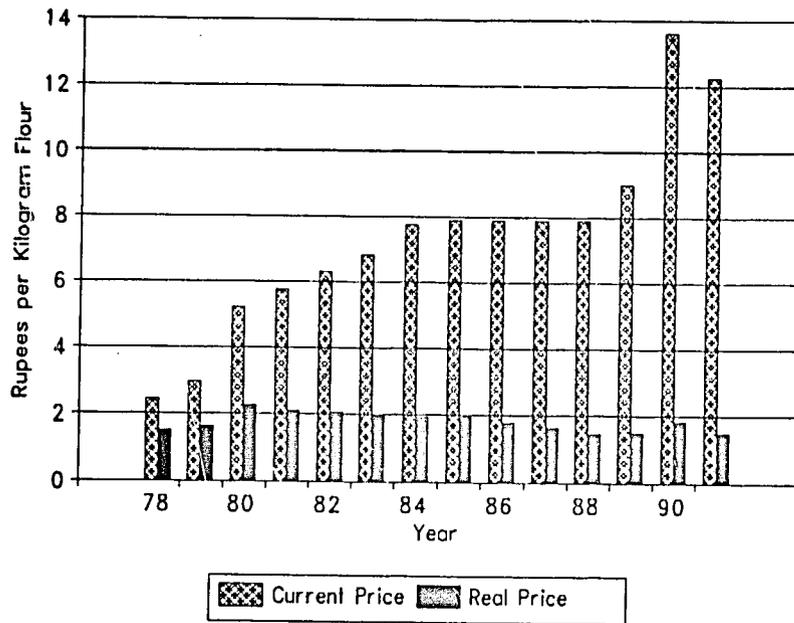


Figure 18. Consumer (Retail) Price of Flour.

SECTION V

ASSESSMENT OF FINDINGS

In making recommendations as required by the scope-of-work, there are a series of basic issues which need to be reviewed. The issues constitute the primary elements of the system and provide the background and constraint which were considered in the development of recommendations.

Issues

The issues concern two broad elements: management and policy aspects; and the results of the analysis of costs and prices.

Food Security. Originally, flour was imported to provide an additional carbohydrate-base food stuff to augment rice consumption for the purpose of food security. It was provided under a subsidized and rationed system. Even though the system has changed to a commercialized system, the concept of food security is still strongly implanted. Commercial market activities have become global in nature. Food security can be practiced through sound commercial activity, rather than the stockpiling of product. However, the stockpiling of two months of flour in the distribution system is often described as a food security policy. This approach to food security is outmoded and creates constraints in trying to develop an efficient system.

The system should focus on the issue of quality. In sound business activities, the consumer is the predominant consideration. He is the customer. Correct business activities focus on providing a quality product at a fair price.

Buffer Stock. Wheat for milling into flour is a totally imported commodity. There is a requirement for buffer stocks to provide a continuous product flow to the consumer. Delays in ship arrival in loading ports, delays in ship transit time to arrival port, possible contract cancellations, incorrect specification of commodity loaded, and any other situations which cause delay, require that the system must have a supply of product with which to supply consumer demand.

The current practice is to maintain two months supply of wheat and two months supply of flour in stock. While this four-month lead time may be slightly longer than normally necessary, it is required given the configuration of the current distribution system. The minimum required, even with a very effective distribution system would be three months.

CWE is well aware of the fact the longer flour remains in storage, the greater the deterioration in baking quality. They are aware that it would be better to have the operational buffer stock in wheat, rather than flour.

The constraints are because of the shortage in the storage capacity. The Prima flour mill has a silo storage capacity of 120,000 mt for wheat and mill feeds. This amounts to two months of wheat for milling. However, space has to be allocated for the storage of mill feeds. This leaves an effective storage capacity for wheat of no more than 90,000 mt (approximately six weeks milling

supply). The bagged-flour storage capacity is 40,000 mt (approximately three weeks of milling), and is primarily for storage of bagged flour from the bagging process. It is physically and contractually required that this flour be shipped as fast as possible to keep this operational area cleared of product. Consequently, FC enters into the system as the storage contractor.

Management of the System. Management of the system is divided, with CWE responsible for wheat and milling of wheat; and FC responsible for the storage of flour. The results of this are evident in the cost analysis section which illustrates the losses in flour and the question of the real cost of storage and distribution.

There is a contractual agreement between GSL and Prima to mill a minimum of 435,000 mt of wheat annually. This contractual agreement extends at least until the year 2000. This is a modern facility and has the capacity to mill over 1.0 million tons of wheat annually.

The structure of the current system is one of a monopoly within a very limited market. It really has all the elements of a public utility monopoly.

Most of the flour is sold in the MPCs system. It is stated that the purpose of this is to support the MPCs since they derive most of their income from the wholesale sale of flour.

Price Policy. It is stated that pricing of wheat flour is done on a no-profit, no-loss basis. This has the aspect of a welfare policy in a commercial process. It does not take into consideration the price effect on other products such as rice. Consumer flour price in real terms has declined over time. Consumer real price of rice has not declined over time.

Prices were decontrolled as of October 1992. If prices are truly decontrolled, it should be expected that retail flour prices will move upwards to a range of Rs 12 to 12.25 per kilogram. From limited samples taken in the marketplace, this movement is already beginning. This price decontrol included both flour and bread. The price of bread had been fixed at Rs 4.5 per pound loaf for well over five years. As stated in a previous study (Borsdorf), this forced an extreme price cap on bread, given the costs involved. With decontrol, the price of bread increased to Rs 5.5 to 6 per pound loaf. There was great social outcry about the these outrageous price increases. This received the appropriate political attention, even to the point of a statement made "that if bakers would not keep the price of bread at Rs 4.5 then they would not be issued any flour."

This example illustrates two major points that need to be considered in attempting change. First, the process of price decontrol was poorly analyzed. Fixed prices on bread had been held at the same price for a long period of time without any adjustments. What happened is what should have been expected to happen. Consumers are sensitive to food price changes, since food is in the group of products which are purchased most often. Volatility in such prices gets immediate attention from the consumers.

The second point is the need for a slow steady process of change. Accomplishing a change through well analyzed and gradual process allows for a change to be

adopted by the consumer over time without political outcry. Upset consumers have a tendency to force governmental systems back into former methods of action and control.

Cost Efficiency. The cost efficiency of the system is satisfactory except for the distribution system. High levels of physical losses and the question of actual distribution cost imply that this is the area within the system that needs to be reorganized.

Price Efficiency. Since the system has been price decontrolled, there are two basic considerations. First, the prices at the retail and the wholesale level will find their own level based on market-oriented forces. Secondly, as a commercial organization, CWE will price flour to cover costs under the current price policy.

Recommendations

The recommendations set forth attempt to take into consideration all of the issues discussed above. There are four primary recommendations.

- A discussion of the "bondsman" system applied to wheat importation as required by the scope of work.
- A recommendation on change in the distribution system as a result of the cost efficiency analysis.
- A recommendation on possible changes in pricing procedures as a result of the decontrol of prices, and the needed resources to do so.
- A discussion of possible alternatives in further liberalization of the market, based on flour quality aspects and market demand.

The "Bondsman" System. The "bondsman" system for rice essentially involves licensing agents to import and store polished rice within the nation for the purposes of sale. There are limitations on the amount and a "floor" price below which the agent cannot sell. There are a great number of difficulties in trying to apply this concept to either wheat or flour.

Physical

Rice is imported as a processed product in bagged form and can be stored in flat warehouse space. Rice is generally shipped in bagged form. Wheat, on the other hand, is a product destined for processing and is generally handled in bulk form. Therefore, to import wheat, one has to have bulk storage facilities. These do not exist except at the Prima flour mill and there is not enough available space for storage for hire. To import wheat in bagged form adds substantial cost to the final import price. The only port available for import of wheat in large bulk vessels is Trincomalee. The importation of wheat into Colombo will result in higher prices because of the smaller ships required due to less harbor draft. Even if this were accomplished, this places the product out of alignment with the processing facility. Wheat would have to be bagged and transported to the flour mill, thus adding additional costs.

In the case of flour, the difficulty is biological. Milled rice can be held in this form much longer than can flour. It is a whole grain. Flour is a ground grain and the baking quality of flour deteriorates over time. For economics of flour importation, refer to the discussion on possible alternatives in further liberalization of the market based on flour quality aspects and market demand.

Market

There is a market difference. Rice can be sold into a competitive market with many buyers and sellers. There is only one buyer for wheat, a government monopoly.

Rice is sold above a specified floor price. If the market for rice is good, the seller stands to make substantial margins since the seller was aware of the stipulated floor price in the licensing agreement.

In wheat, with one buyer, there are no price opportunities. The price is the international market price and now one has entered into the area of speculation in the ownership of wheat. If there were parties interested in speculation, they would already be in this market. Even large grain companies do not speculate on the level of price changes.

Finally, the purpose of the "bondsman" system in rice is to stabilize the consumer rice market without damaging the domestic production of rice (hence the floor price established). In wheat there would be no such objective.

Economic

If the situation of a bondsman is compared to the CWE importation of wheat, the costs are as follows. This assumes no physical handling difficulties and the handling and storage of wheat in bulk at mill point.

	<u>1990</u>	<u>1991</u>	<u>1992</u>
	CWE		
CIF Price (1)	6,940	4,973	6,106
Port Charges (2)	407	224	224
Interest (3)	217	314	458
Overhead (4)	<u>77</u>	<u>165</u>	<u>165</u>
Total	7,717	5,786	6,953
	Bondsman		
CIF Price (1)	6,940	4,973	6,106
Port Charges (2)	407	224	224
Storage (5)	122	136	145
Interest (6)	347	249	525
Margin (7)	<u>347</u>	<u>249</u>	<u>305</u>
Total	8,218	6,053	7,306

- (1) CIF wheat price, CWE.
- (2) Standard port charges.
- (3) Actual cost
- (4) Allocated 50% overhead.
- (5) Three months storage.
- (6) Rate of 16%, 20%, and 24% for 1990, 1991, and 1992, respectively, for the CIF cost, port cost, and storage cost over four months.
- (7) Two percent margin on CIF price.

The economics are not impressive. It is the addition of a segment in a marketing channel that is not economically warranted. If GSL set a price to purchase wheat, it would have to be high enough to encourage someone to undertake such an operation in the anticipation of profit.

Summary

This concept is not applicable to wheat or flour because of the difference in physical, market, and economic characteristics.

The Distribution System. The need for restructuring the distribution system was presented in the cost efficiency analysis. The constraints involved in restructuring the system were presented in the issues sub-section. The author is not sure he is smart enough to provide a rational answer to the need, given the constraints involved.

First, the storage problem. One of the principal functions of FC is to store flour. Flour must be continually shipped from Prima to keep the mill's operational bagged-flour storage cleared. Now we reach the puzzling point. The buffer stock policy keeps being stated as two months of wheat and two months of flour. In reality, there is only 90,000 mt effective storage capacity at Prima for wheat, or 1.5 months. Now, it would be assumed that there are two months volume of flour consumption in the FC warehouses. Review the information provided by FC in Table 4. Only in 1990, at the end of the year, were there two months of flour consumption in the FC warehouses (most likely due to the large amount of flour imports in 1990). A review of stated receipts and distributions by FC gives the following results:

Average Inventory in Monthly Distribution Volume					
1985	1986	1987	1988	1989	1990
1.1	1.5	1.5	1.6	1.3	1.8

Therefore, the system is operating with slightly more than three months of product storage in all positions.

To eliminate the need for flour storage in the FC warehouses, or even in the CWE warehouses, they would need to physically have flour distribution which would require that the buffer stock be maintained in wheat prior to milling. This will require additional capacity in bulk wheat storage facilities. The purpose of such storage is to create a 3.5 month operational buffer stock capacity for continuous milling operations and consequent flour flow directly into the wholesale system. The system would be improved by storing wheat rather than

flour, because it is easier to maintain the quality of the product, and the consumer would receive a fresher product without the current flour storage system.

This is going to require an investment in facilities (assuming space is available to build facilities at the milling complex). Investment in facilities implies added costs. Are these costs warranted?

The best that can be illustrated for purposes of example are crude numbers. To achieve 3.5 months of wheat storage will require an additional 100,000 mt capacity. Lets assume that this could be constructed for US\$ 10 million (not accurately reliable). In rupees, this would be an investment of Rs 450 million. What would be the payback? Assume losses in the flour distribution system of 4% given data presented earlier. There is an inbound wheat flow of 700,000 mt annually, equivalent to 518,000 mt of flour production annually. A loss of 4% in the distribution system amounts to 20,720 mt annually. At a current value of Rs 10.02 per kilogram flour (Rs 10.95 - distribution fee of Rs 0.93) or Rs 10.020 per ton, this amounts to an annual loss of Rs 207,614,400. Holding wheat in storage costs money, so a charge of Rs 99.17 per ton is levied for holding wheat in storage. This is equivalent to Rs 0.134 per kilogram of flour. If this is added to the cost of flour at mill door (Rs 10.02 + Rs 0.13 per kilogram flour), then flour could be sold at mill door for Rs 10.15 versus the current price of Rs 10.70. This is a gain of Rs 0.55 per kilogram flour or Rs 550 per ton. Based on the 518,000 tons of flour annually, this is a gain of Rs 284,500,000 annually. Essentially the economic value is a one-year payback period or an annual internal rate of return on invested capital well in excess of 50%.

Will it work like this? Of course not, it never does. There is a need to determine if the cash flow will support such an investment. An investment in a facility has to be paid for in some manner. Assume the investment would cost 20% interest on borrowing the total capital amount. The flour cost at mill door is Rs 10.15 per kilogram. Rs 0.25 would be added to create a mill door price of Rs 10.40 per kilogram so as to pay for the facility. This charge will generate Rs 124,500,000 annually based on an annual flow of flour of 518,000 mt. The cash flow in Rupees is as follows.

<u>Year</u>	<u>Investment</u>	<u>Interest</u>	<u>Payment</u>	<u>Balance</u>
1	450,000,000	45,000,000		495,000,000
2		99,000,000	124,500,000	469,500,000
3		93,900,000	124,500,000	438,900,000
4		87,780,000	124,500,000	402,180,000
5		80,436,000	124,500,000	358,116,000
6		71,623,200	124,500,000	305,239,200
7		61,047,840	124,500,000	241,787,040
8		48,357,408	124,500,000	165,644,448
9		33,128,890	124,500,000	74,273,338
10		14,854,668	124,500,000	(35,371,995)

In ten years, the investment has been repaid. The facility is still a sound operating unit. The flour storage system is disbanded and sales are made at mill door. The wholesaler receives a fresher product at a price well under current

supply station or mill door price. GSL does not have to pay for any excess losses as in the current flour distribution system.

The next step required is that the private sector and the MPCs systems be mobilized to act as wholesalers. This will require agreement between GSL and the wholesalers involved. Flour must be shipped and the operational warehouse kept clear. Yes, this is radical surgery, but it is restructuring the system to make it workable.

Then, the possibility to meet specific market requirements for different flour specifications in the market are possible.

The other alternative to improve the cost efficiency of the distribution system is for CWE to assume direct responsibility. This would stem losses and possibly be more cost effective. It does not answer the quality problem. It simply keeps the system as it is with more direct control.

The final alternative seems to be to hire another contractor. The private sector is most likely not interested in becoming storage agents. They are and should be interested in merchandising products. Even if the private sector took over as a contractor, could losses be stopped? CWE retains title and is liable for losses. This places CWE in a very vulnerable position. Further, it does not address the quality problem.

It is deemed that the best diagnosis is radical surgery.

Flexible Pricing. Now that the wheat distribution system has been price decontrolled, CWE should consider a flexible price approach to setting price on flour.

This does not mean that every shipload of wheat should be individually priced. This is not a competitive system where CWE is competing against other market entities. CWE sells only one specific product of a standard specification. Trying to price each load of wheat will cause immense confusion within CWE as to what specific point of time to impose the price. It will cause immense confusion in a market which is just being decontrolled. Further, without a cost accounting system, such specific pricing could not be undertaken.

Rather, flexible pricing should be based on the concept of margins rather than the basis of cost. This approach would enable the movement of the commercialization of the domestic wheat flour flow based on a concept of a quality product at a fair price, rather than the welfare approach concept of no-profit, no-loss price setting.

Learning to set price by margin means that margins must be constructed on historical import price and operating cost information as well as information concerning possible future operational costs and import prices. This is going to require a cost accounting system which can capture actual cost data, which in the case of wheat, could be relatively simple.

The margin must take into account the variability of import price of wheat so that price will not have to be adjusted upward or downward within unreasonably short time periods. The variability of the CIF wheat prices on a quarterly basis, taken from the CWE data in Appendix VI, indicate how important this factor can be.

	CIF		
	<u>Quarterly Range</u>	<u>Range Width</u>	<u>Midpoint</u>
1991 I	5.45 - 7.28	1.83	6.37
II	6.51 - 7.07	0.56	6.79
III	7.07 - 8.34	1.27	7.71
IV	7.09 - 7.16	0.07	7.13
1992 I	7.75 - 8.62	0.87	8.19
II	7.40 - 8.97	1.57	8.19
III	8.18 - 8.61	0.43	8.40

CWE, or a succeeding organization with most likely the same personnel, will be in the business of wheat procurement and flour sales for the foreseeable future, given the nature of the existing system.

It is recommended that CWE be given assistance in implementing a market analysis unit. This could be a one-person operation.

The beginning function would be to gather wheat and flour price and price-related information from export markets as well as ocean freight rates. This information would be analyzed and projections made of possible price opportunities by specific qualities of product.

The second function would be to gather the import costs and operating costs occurring in the system to generate a precise cost accounting process. In this manner, all costs could be measured. These costs would be available for setting of price by margin.

The third function to be implemented would be to gather data on the domestic flour market. Where does product flow? What is the primary market? What is the secondary market? What specific flour needs exist in the system?

This effort has two objectives:

- To enable CWE to adopt a flexible pricing procedure, not only for the flour now being produced, but for the possibility of producing other specific flour products from imported wheat.
- To enable CWE to provide a facilitating function to the domestic flour market.

The effect of these two objectives are further discussed in market liberalization alternatives. In no case should CWE consider any type of flexible pricing approach until they are prepared to do so. They are better off staying with the current no-profit, no-loss pricing approach.

Market Liberalization Alternatives. With the advent of decontrolled flour prices, other market liberalization issues may be under consideration. In view of this, two possible alternatives are evaluated.

Private-Sector Import of Flour

This aspect of market liberalization is discussed because of the intense interest and controversy surrounding possible importation of flour by the private sector. First, what is the market for specialty flours? This means, what is the market for good quality flour, especially for bread production or pasta production? Total market demand, processor utilization of flour, baker utilization of flour, and direct consumer use are only being guessed at. Is there a market for flour other than the flour now produced by Prima to GSL specifications? Nobody seems to know.

If an assumption is made that the market was opened to import some 5% of consumption or approximately 25,000 tons under a set of specification minimums for bread and pasta production, what would be the result? Strict specifications are required, otherwise a low quality product will be imported. The economics of flour importation based on commercial purchase are set forth below.

	HRW Flour FAS Gulf (US\$)	Freight Freight (US\$)	C&F Total (US\$)	Exchange Rate (Rs)	C&F Import Cost (Rs/Mt)	C&F Import Cost (Rs/Mt)
	(1)					
June 91	194.00	73.00	267.00	41.18	10996	10.996
June 92	230.00	73.00	303.00	43.86	13290	13.290
Sept 92	225.50	73.00	298.50	44.00	13134	13.134

	C&F HRW Wheat Imports (Rs/Mt)	Measured Against C&F HRW Wheat Flour Equiv (Rs/Mt)	Wheat Imports C&F Wheat Flour Equiv (Rs/Kg)	C&F Imported Flour (Rs/Kg)	Difference (Rs/Kg)
June 91	4792.61	6476.50	6.477	10.996	+4.519
July 92	5921.10	8001.00	8.001	13.290	+5.289
Sept 92	6048.00	8173.00	8.173	13.134	+4.961

	FAS HRW Wheat Price Gulf (US\$/Mt)	FAS HRW Flour Price Gulf (US\$/Mt)	FAS Wheat Price Gulf Flour Equiv (US\$/Mt)	Difference (US\$/Mt)
	Measured Against Wheat US FAS Price			
	(2)			
June 91	117.91	163.76	194.00	30.24
June 92	136.65	189.79	230.00	40.21
Sept 92	138.12	191.83	225.50	33.67

- (1) Ocean freight on flour - US\$ 73.26, ocean freight on wheat - US\$ 33.44, data based on Appendix VI.
- (2) Composed of costs representing bagging, preparation, and loading of freight cars, freight to Gulf, unload freight cars, and milling margin.

It is easy to see that imported flour has a definite cost disadvantage compared to imported wheat. The following comparison presents imported flour compared to supply station price at the corresponding time.

	<u>June 91</u>	<u>July 92</u>	<u>Sept 92</u>
Flour C&F	10.996	13.290	13.134
Port charges	.228	.228	.228
Insurance	.021	.021	.021
Other costs	1.414	1.414	1.414
Total	12.659	14.953	14.797
Fixed Price	11.45	11.45	10.95

Flour imported under commercial circumstances would have a premium price. The premium price under price decontrol would be nearly Rs 6 per kilogram of flour over domestically produced flour. It is considered highly unlikely that the flour could be sold, or that any importer would consider such a venture.

Internal Production

Prima has enormous milling capacity. It has five milling units. It could mill flour destined for specific markets. The development of a market analysis unit within CWE could determine what the specific requirements are within the total flour market. They could determine if the requirements were large enough to warrant Prima changing its operations to mill runs of different specifications. The unit could assist the private sector in mobilizing for purchase through an association structure. These types of efforts bring CWE into the area of providing what is known as facilitating marketing functions to the private sector. This is an important role of government.

Further, such an effort may facilitate the restructuring of the current flour distribution system as it brings a larger group of users into the system.

Priorities

It is suggested that priorities be as follows:

- Implement the market analysis unit within CWE. This will establish a base for internal change and improvement within the system.
- Determine if restructuring of the distribution system is feasible. If so, begin the process of implementation.
- Assist the CWE market analysis unit in determination of the potential flour markets in Sri Lanka and the formulation of plans to supply such flour markets.

Given cost considerations, the "bondsman" system and the private sector import of quality flours are not considered feasible.

SECTION VI

WHOLESALE AND RETAIL OPERATIONS OF CWE

CWE operates under four major objectives:

1. Procure and supply the requirements of cooperative societies.
2. Carry on business as importers and as wholesale and retail dealers in goods of every description.
3. Carry on such trade or business including any agricultural or industrial undertaking or the business of banking or shipping as may be approved by the Minister of Trade with the concurrence of the Minister of Finance.
4. Invest or acquire or hold shares of stock in any public company carrying on or engaged in any business being a company having objectives similar or substantially similar to the objectives of the establishment.

Ownership and Related Policies

CWE is owned by GSL, and consequently there is an expectation of the government that CWE will perform social and service obligations during times of crisis. Consequently, there have been losses of inventories due to the attempt to continue the sale of goods to the public in locations where civil war has been continuing over the past ten years. It also seems to be the expectation of government that another role of CWE is to provide a market for certain domestically produced products, therefore acting as a price-floor support operation. An example of this is the procurement of big onions in 1989 where substantial losses were incurred. It is understood that such actions are again occurring in 1992.

Such policy-directed operational actions need to be taken into consideration, since the losses stemming from them reduce overall gross margins and consequently reduce net operating profits.

Overview of CWE Total Operations

Total sales from 1983 to 1991 for all operations of CWE are illustrated in Figure 19. Sales have shown a substantial growth throughout the 1980s and into the 1990s. However, profits have been elusive during this time period, as shown in Figure 20. In four out of the nine years reviewed, substantial losses have been incurred, with minimal profits in four years. The high level of profits earned in 1991 were accounted for by 70% operating earnings and 30% extraordinary items (one-time earnings).

As a result of 1991 earnings, net worth of CWE has returned to a positive position. The net worth of CWE in 1991 was the highest level of net worth of the organization in the nine years reviewed. However, if the net worth position of CWE is deflated to remove inflationary factors over the past nine years, then CWE is shown to be in a worse position than in 1983. This is illustrated in Figure

21. Further, if the net worth of CWE is deflated to reflect currency devaluation of the Rupee, the 1991 net worth position is in an even worse position than in 1983. This is shown in Figure 22. A profit and loss summary and a balance sheet summary of CWE total operations is located in Appendix IX.

Also provided in Appendix IX are a series of activity, cost-structure, profitability, liquidity, solvency, and financial ratios based on the profit and loss and balance sheet summaries. These ratios reveal an organization with a weak financial and operating position. These ratios also reveal poor management and a failure to take actions to rectify operational shortcomings. These weaknesses are best summarized by the fact that equity relationships of asset control are 82% in current liabilities, 10% in long-term liabilities, and 8% in net worth. This is a substantial deterioration of 75% in the financial position of CWE since 1983.

Overview of CWE Wholesale and Retail Operations

CWE has had a monopoly for the importation and distribution of sugar, onions, chilies, and lentils. With the advent of the GSL trade liberalization policies these monopolies are no longer in effect.

CWE operates 39 wholesale depots, six of which are in Colombo. CWE operates a retail multi-product store system which consists of 114 locations.

The CWE wholesale and retail (trading) operations accounted for 90% of the firm's total sales in 1983. This has increased to 98% of the firm's total sales (without wheat flour sales) in 1991. Wheat importation and flour sales have been excluded because they are considered to be a special operation. A summary of sales, costs, margins, and net operating profit before interest costs is provided in Tables 10 and 14. Net operating profits are defined as profits before interest costs because interest costs are not fully attributed in annual reports to different operations.

Figure 23 illustrates gross operating margin, net operating margin, and net operating profit as a percentage of sales. Gross operation margins have ranged from 7% to 20% over the time period reviewed. The margin declined till 1985 and then rose back to the 15% level for 1985-1990. In 1991 gross operating margin slightly exceeded 20%, reflecting an apparent price spread adjustment in margin and markup.

Net operating margin has ranged from 2% to 14% while net operating profit has ranged from -3% to 12%. These margins have followed the same general pattern as gross operating margin with an increasing rate of trend during the late 1980s and 1990s. This is most likely the result of the increase in sales volume being at a higher rate than the increase in sales and overhead expenses. Composition of sales for 1983-1991 is depicted in Figure 24.

Growth of sales over time is illustrated in Figure 25. Sales growth has been at an annual rate of 36%. However, 80% of this sales growth can be attributed to inflation. Sales growth in constant prices is slightly less than 8% annually.

Net operating profit over time is shown in Figure 26. Growth of net operating profit has been at an annual rate of 101%. Again, two-thirds of this growth can be attributed to inflation. Net operating profit growth in constant price terms is 36% annually. These numbers are quite deceiving because the low level of profits in the first five years reviewed results in higher growth rates than should otherwise occur.

Net operating profits are strongly influenced by two factors: inventory turnover and price markup and margins on goods (the difference between the base cost price and selling price of a product).

Because the cost of goods sold is such a large component of sales (Figure 24), anything affecting costs of goods sold will have an important impact on net operating profits. This is further influenced by the fact that sales expenses added to overhead costs remain in a relatively narrow range of percentage of sales and have declined since 1986 as shown in Table 11.

As inventory turnover falls or rises, net operating profits fall and rise with it. This is shown in Figure 28. The same applies to markups and margins as illustrated in Figure 29. As markup is increased, net operating profits are increased. Margins on goods also follow this same pattern. Margins and markups, as well as inventory turnover, were higher during 1988 - 1991 time frame than in prior years. The result was a reduction in the cost of goods sold and a substantial rise in net operating profits. This is illustrated in Figure 30, which can be compared to the overall results shown in Figure 24.

Productivity. Productivity of the CWE wholesale and retail operations are best measured by sales per employee and by selling expense plus overhead cost as a percentage of sales.

Productivity measured by sales per employee must be measured based on a calculated estimate of employees involved in not only the direct marketing process, but also in supporting services to the wholesale and retail operations. This estimate is based on a 1991 classification of employees.

Figure 30 illustrates that CWE has sharply increased sales per employee during the late 1980s and the 1990s. However, when sales are deflated for inflation, sales per employee have a slight growth for 1983 - 1987. In 1988 there was a sharp increase in sales per employee and then a very slight growth during 1988 - 1991.

Sales plus overhead expenses increased from 1983 to 1986 to reach 13% of sales. Thereafter, these expenses rapidly decreased to a low of 8% in 1989, with a very slight increase for the remaining two years. These movements are shown in Figure 31.

Interest Costs. Interest costs given in annual reports are not fully attributed to different activities conducted by CWE. Based on an estimate of required financing for all activities (with the exception of wheat flour), a prorated interest cost was developed for attribution to wholesale and retail operations. The purpose of this analysis is to test whether net operating profits before interest expenses were sufficient to cover direct interest costs and leave a

remaining positive balance which could be interpreted as net profit for wholesale and retail operations.

The results of this analysis are illustrated in Figure 32. In four out of the nine years reviewed, net operating profits have not been sufficient to meet interest costs. In another four years, net profits ranged from less than 0.1% to 2.5% of net sales. Finally in 1991 net profit of over 5% of sales was achieved.

Inventory Balances. Inventory balances as shown in annual reports are open to question. "Stock variances" and "condemned and price-reduced stock" are carried as ending inventory balances. These specific ending inventory balances have not been carried forward since 1984. It is explained that stock variances are the difference between book and physical inventories, and 90% of this difference is written off, with the balance collected from those responsible for shortages. It is explained that the condemned and price-reduced stock is actual inventory which has been discounted in price because of deterioration, shrinkage, or the lack of market.

Using this explanation, inventory adjustments were made to reflect 90% write-off of stock variances by reducing the ending inventory stock variance to 10% of state annual report balance. This balance was then carried forward with the ending inventory balance. The condemned and price reduced stock ending inventory balance was carried forward with the ending inventory balance. The result of this adjustment creates new beginning and inventory balance in certain years. The results of the inventory adjustment are presented in Appendix X, Table 2.

The purpose of this analysis is to test the effect of write-offs and write-downs on cost of goods sold and, consequently, net operating profits. Figure 33 illustrates that the cost of goods sold increases from 84.9% to 87.9% when compared to Figure 24.

As a result, net operating profit declines from 5.8% to 2.8% of sales for 1983 - 1991. This reduction in net operating profit by year is illustrated in Figure 34. When compared to the stated annual report inventory position, as depicted in net operating profits Figure 26, there is a significant change. The results of wholesale and retail operations are exceedingly poor except for 1988 and 1991.

Retail Sales versus Wholesale Sales

Separation of wholesale sales and retail sales with available data is an extremely "messy" situation. Wholesale sales and retail sales were segregated as shown in Table 12. Total sales and stated retail sales were taken from annual reports. Wholesale sales were arrived at by subtracting retail sales from total sales. The two years of wholesale sales given by annual reports (1990 and 1991) more or less match the calculated wholesale sales volume. Wholesale sales as a percentage of total sales are given in Table 12. It is apparent that two-thirds of the CWE trading volume results from wholesale sales.

Retail Operations Sample

The data collection process conducted by the Lanka Asia Management Company (LAMSCO) for retail operations was limited to 20 stores over the period 1988 to 1991. The reason for this limitation is that the CWE's accounting system does not provide information on the profile or profitability of individual retail outlets. Consequently, information had to be drawn from monthly stock records, monthly salary sheets, and monthly expenditure statements. Products are issued to retail outlets at selling prices (retail) and the outlets are expected to deposit that amount of money at the bank. Since the cost price of goods transferred to retail outlets could not be ascertained, a wholesale price of goods shipped to retail outlets was constructed using a margin of 15%.

The retail sales sample represents 19% to 21% of the total CWE retail outlets, depending on the year. The sample was tested to ascertain how well it represented the total CWE retail sales. When the sample was extrapolated, it was within a range of 2% to 11% over the sample period of the CWE stated retail sales. The average difference over the sample period between the extrapolated sample and the CWE stated retail sales is only 0.1%. These results are described in Table 13. Further, the sample taken is quite dispersed on the basis of sales volume per store and should fairly represent the sales volume for all stores in the system. This is illustrated in Figure 3, Appendix XI. Therefore, the sample is deemed to be highly representative of all stores in the CWE retail store system.

The sales costs used to compute the net operating margin are salaries and other costs directly related to the operating of each individual retail store in the sample. Sales, gross operating margins, and net operating margins are detailed in Table 1, Appendix XI.

The number of profitable and unprofitable stores in the sample is described in Table 14. The number of profitable stores declined from 1987 to a low point in 1990 and then returned to the 1987 level. An analysis of gross operating and net operating margins given in Table 2, Appendix XI, reveals that there is erratic variability from year-to-year in a single store's results. There is a movement from profitability to large losses to minor losses and then a return to profitability, not always necessarily in the order given. One would expect stable, slightly increasing or decreasing trends in gross operating and net operating margin percentages by store. There is none.

An average of the sample by year is presented in Table 15, and illustrated in Figure 3, Appendix XI. While average sales have increased over time, gross operating and net operating margins have increasingly become negative up to 1991. While the margins improved in 1991, they are still negative. This has not been a result of changes in sales volume or increased operating expenses, but as a result of the decline in gross operating margins as illustrated in Figure 1, Appendix XI.

An average of the sample by store for all years is shown in Figure 35. Only five out of 20 stores have been profitable over the 1988 - 1991 sample period.

The negative gross operating margins in most of the samples is extremely bizarre. As stated above, products are issued to retail outlets at selling prices (retail) and the outlets are expected to deposit that amount of money at the bank. Since the cost price of goods transferred to retail outlets could not be ascertained, a wholesale price of goods shipped to retail outlets was constructed using a margin of 15%.

This automatic 15% margin should have biased the sample to the positive side for gross operating margins. It did not. Consequently, it is expected that either major losses of merchandise or massive price markdowns are responsible for such negative margins. In the case of the latter, this would indicate that stock selection is poor or established procurement and pricing procedures and policies are not competitive.

The difference between gross operating margin and net operating margin is relatively stable, as shown in Table and Figure 1, Appendix XI. Sales expenses and other direct costs have ranged from 3% to 4% of sales for 1988 to 1991. This further emphasized that losses shown in the sample are directly involved with some combination of stock losses, pricing, or stock selection.

Wholesale Operations Sample

LAMSCO conducted data collection of wholesale operations for 1988 through 1991 for specific commodities. The food commodities selected were sugar, big onions, red lentils, chilies, dry fish, canned fish, and Lakspray (milk powder). The industrial commodities selected included textiles, stationary, hardware and ceramics, electrical items, and sports goods.

The data collection process involved in this study encountered many constraints. Data on wholesale operations had to be collected from many sources as the accounting system utilized by CWE does not provide information on either food or industrial commodities. Therefore, LAMSCO had to extract most of the information from source documents. It was difficult to find source documents, in many cases. There was a contradiction in data collected from different sources. Stock losses, sales expenses, administrative costs, and financial costs had to be apportioned due to lack of a cost accounting system at CWE. This apportionment was first made between retail and wholesale sales. Then the resulting costs attributed to wholesale sales were apportioned to commodity.

Wholesale sales are defined as (1) solely those sales made to other businesses for the purpose of resale, or (2) sales made to both other businesses and the CWE retail system for purposes of resale.

Wholesale Commodity Sample. The wholesale commodity sample as provided in Table 1, Appendix XII, is a commodity sample that covers 82% to 94% of the CWE total trading sales for the sample period. This sample fits the second definition given above.

A summary of sales, expenses, and margins is provided in Table 16. Food products have had a positive gross operating margin and have been profitable except for 1989 and 1990. Losses in sugar, big onions, and canned fish caused negative returns in 1989. Losses in red lentils and chilies caused negative returns in

1990. Profits in 1991 had a substantial increase as a result of significantly higher gross operating margins. One major food product has caused a reduction in profitability, sugar. In four out of the five years, it has consistently lost money.

Industrial products have shown profitability for all years. The basic reason for this is that gross margins do not fluctuate for industrial products as they do for food products. This is especially true in this case because there are products in the food category which are perishable. Food products generally are also more competitively priced.

A comparison of operating margins and profits by the commodity group and total sales is provided in Figures 1 through 5 in Appendix XII.

CWE Wholesale Sales. Total food products in the commodity sample were adjusted in an attempt to reflect the CWE wholesale sales as per the first definition above. The adjustment was made based on the CWE annual reports in which emphasis was given to particular commodities handled on a wholesale basis. These commodities, as matched with the wholesale commodity sample, are as follows.

<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>
Sugar	Sugar	Sugar	Big Onions	Big Onions
Big Onions	Big Onions	Big Onions	Red Lentils	Red Lentils
Chilies	Chilies	Chilies	Chilies	Chilies
Canned Fish	Red Lentils	Red Lentils	Canned Fish	Canned Fish
Dried Fish				

The adjustment results are presented in Table 17. In 1987 and 1990 net sales resulting from the adjusted wholesale commodity sample are very close to the CWE stated wholesale sales. In the other three years, one can only assume that the difference between the adjusted commodity sample and the CWE stated wholesale sales represents sales going into the CWE retail system.

Compared to the commodity sample presented in Table 16, the average for food products adjusted to reflect the CWE wholesale sales shows increased earnings. Gross operating margin show increases of slightly less than 1%, while net operating margin and profit show increases of slightly over 1%.

Conclusions

- GSL needs to decide whether CWE is a commercial organization, or a governmental agency responsible for social actions as required which are supported by commercial activities. It cannot be both. The weak financial position of the firm, the losses shown in the retail store sample, and the specific losses incurred in individual commodities are indicators of the need for change.
- The CWE trading activities are over Rs 5 billion annually. This is equivalent to US\$ 124 million. Yet, this organization does not have a cost accounting system. CWE needs to install a cost and management accounting system so as to be able to measure sales and costs by operating

unit, commodity, and product on a continuous basis. Without such a system, results will generally be unknown until the financial accounts are closed for the year. And even then, there will be no major specific information about what actually caused profits or losses. Regardless of the quality of management within CWE, it cannot function properly without current, detailed, and accurate information.

- The lack of accounting on a commodity basis and the method of wholesale sale of goods to the CWE retail stores strongly supports this need.
- The retail store sample reveals that the retail store system is essentially utilized as a pass-through system for the wholesale sales organization. The retail store system is not operated as either one profit center or as individual profit centers. The lack of earnings, as shown in the retail store sample, indicates a lack of management control over these enterprises. This is supported by the fact that the retail store sample was given an automatic bias of 15% product margin, yet gross operating margins for most stores were negative. The analysis reveals that direct operating costs for a majority of stores are far less than 15% of sales. Consequently, there should have been substantial net operating profits in the retail store sample. There were not. If the sample is extrapolated to represent the total system, the results are serious losses.
- The CWE wholesale sales have apparently concentrated on major food product items in which a monopoly was granted. Earnings in this concentrated group are superior to the wholesale commodity food group in total. It appears from the data provided that the wholesale portion of the CWE trading activities has provided the major portion of earnings for the organization.
- There is a recognition of the need for adequate operating margins within the CWE organization. This is evidenced by the major increase in gross operating margins and net operating margins in 1991. In 1991 gross operating margins in the wholesale commodity sample were over ten times greater than in previous years. In 1991 more retail stores were profitable, reflecting an increase in gross operating margins.

TABLE 10
SUMMARY OF CWE WHOLESALE AND RETAIL OPERATIONS
(Rupees)

	Years				
	1991	1990	1989	1988	1987
Net Sales	5,522,812,423	4,544,364,121	4,600,411,068	3,861,613,102	2,367,014,758
Cost of Goods Sold	4,405,015,243	3,899,446,981	3,888,149,110	3,312,318,086	2,044,244,380
Gross Operating Margin	1,117,797,180	644,917,140	712,261,958	549,295,016	322,770,378
Sales Expenses	343,624,892	258,306,148	219,300,995	170,880,218	127,851,503
Net Operating Margin	774,172,288	386,610,992	492,960,963	378,414,798	194,918,875
Overhead	126,207,331	113,389,345	144,197,108	179,384,120	118,300,043
Net Operating Profits (1)	647,964,957	273,221,647	348,763,855	199,030,678	76,618,832

	Years			
	1986	1985	1984	1983
Net Sales	1,657,424,155	2,061,108,011	1,971,584,060	1,415,560,058
Cost of Goods Sold	1,417,952,377	1,909,986,257	1,694,623,895	1,201,270,350
Gross Operating Margin	239,471,778	151,121,754	276,960,165	214,289,708
Sales Expenses	116,989,837	118,953,518	108,675,883	69,410,230
Net Operating Margin	122,481,941	32,168,236	168,284,282	144,879,478
Overhead	97,326,180	92,388,289	108,675,883	73,610,136
Net Operating Profits (1)	25,155,761	(60,220,053)	59,608,399	71,269,342

(1) Net operating profits before interest costs

TABLE 11

SUMMARY OF CWE WHOLESALE AND RETAIL OPERATIONS
PERCENTAGE OF SALES
(Percentage)

Year	Cost of Goods Sold	Gross Operating Margin	Sales Expenses	Net Operating Margin	Overhead	Net Operating Profit (1)	Total Sales Expense and Overhead
1983	84.9	15.1	4.9	10.2	5.2	5.0	10.1
1984	86.0	14.0	5.5	8.5	5.5	3.0	8.5
1985	92.7	7.3	5.8	1.6	4.5	-2.9	10.3
1986	85.6	14.4	7.1	7.4	5.9	1.5	13.0
1987	86.4	13.6	5.4	8.2	5.0	3.2	10.4
1988	85.8	14.2	4.4	9.8	4.6	5.2	9.2
1989	84.5	15.5	4.8	10.7	3.1	7.6	7.9
1990	85.8	14.2	5.7	8.5	2.5	6.0	8.2
1991	79.8	20.2	6.2	14.0	2.3	11.7	8.5

(1) Net operating profits before interest costs.

TABLE 12

SUMMARY OF WHOLESALE SALES VERSUS RETAIL SALES
(Rs Millions)

	Years				
	1987	1988	1989	1990	1991
Total Sales (1)	2,367.0	3,861.7	4,600.4	4,544.4	5,522.8
Retail Sales (2)	702.3	1,032.4	1,229.0	1,399.0	1,935.0
Wholesale Sales (3)	1,664.7	2,829.3	3,371.4	3,145.4	3,587.8
Wholesale Sales (4)	N/A	N/A	N/A	3,246.0	3,646.0
Wholesale Sales as % of Total Sales	70	73	73	69	65

(1) Total sales trading (wholesale/retail) as per annual reports.

(2) Retail sales as per annual reports.

(3) Balance: Total sales less stated retail sales = wholesale sales.

(4) Wholesale sales as per annual reports.

TABLE 13
TEST OF RETAIL SALES SAMPLE
(Rs Millions)

	Years				
	1987	1988	1989	1990	1991
CWE Annual Reports					
Retail Sales	702.3	1,032.4	1,229.0	1,399.0	1,935.0
Retail Stores	100	95	101	108	108
Average Sales Per Store	7.02	10.87	12.17	12.95	17.92

Based on Retail Sample Extrapolated					
Average Sales per Store	7.81	10.25	11.95	11.83	19.1
Retail Sales Extrapolated	781.0	973.8	1207.0	1277.6	2062.8
Percent Difference (1)	11.2	5.7	1.8	8.7	6.6

Average Difference (2) = 0.1%

- (1) Difference between sample extrapolated and stated annual report retail sales.
- (2) Average difference over sample period between extrapolated sample and stated annual report sales.

Source: CWE Annual Reports and Appendix XI

TABLE 14
SUMMARY OF PROFITABLE AND UNPROFITABLE STORES
RETAIL STORE SAMPLE

<u>Year</u>	Profitable		Unprofitable		Total No.
	No.	%	No.	%	
1987	10	50.0	10	50.0	20
1988	4	20.0	17	80.0	20
1989	5	25.0	15	75.0	20
1990	2	10.0	18	90.0	20
1991	11	55.0	9	45.0	20

Source: Table 1, Appendix XI

TABLE 15
AVERAGE OF RETAIL STORE SAMPLE BY YEAR

Year	Net Sales	Gross Operating Margin	Gross Operating Margin %	Net Operating Profit	Net Operating Profit %
1987	7,809,880	781,456	10.0	156,301	2.0
1988	10,249,096	(780,094)	-7.6	(1,098,636)	-10.7
1989	11,946,284	(1,311,261)	-11.0	(1,752,246)	-14.7
1990	11,828,043	(2,804,975)	-23.7	(3,271,920)	-27.7
1991	19,096,872	(1,566,375)	-8.2	(2,100,675)	-11.0

Source: Table 2, Appendix XI

TABLE 16

SUMMARY OF WHOLESALE COMMODITY SAMPLE
(Rs Millions)

	Year					Average
	1987	1988	1989	1990	1991	
Total Food Products						
Net Sales	1,826.938	3,491.322	3,943.856	3,272.120	4,497.290	3,406.305
Cost of Goods Sold	1,667.394	3,266.900	3,794.620	3,208.922	2,275.718	2,842.711
Gross Operating Margin	159.544	224.422	149.236	63.198	2,221.572	563.594
Gross Operating Margin %	8.7	6.4	3.8	1.9	49.4	16.5
Sales Expense	81.647	117.695	151.065	168.587	219.215	147.642
Net Operating Margin	77.897	106.727	(1.829)	(105.389)	2,002.357	415.953
Overhead	39.069	30.189	28.552	24.288	26.563	29.732
Net Operating Profit	38.828	76.538	(30.381)	(129.677)	1,975.794	386.220
Net Operating Margin %	4.3	3.1	-0.0	-3.2	44.5	12.2
Net Operating Profit %	2.1	2.2	-0.8	-4.0	43.9	11.3
Total Industrial Products						
Net Sales	118.765	147.571	170.636	301.198	288.151	205.264
Cost of Goods Sold	85.329	115.062	142.827	247.863	244.355	167.087
Gross Operating Margin	33.436	32.509	27.809	53.335	43.796	38.177
Gross Operating Margin %	28.2	22.0	16.3	17.7	15.2	18.6
Sales Expense	5.208	7.512	9.642	10.759	13.992	9.423
Net Operating Margin	28.228	24.997	18.167	42.576	29.804	28.754
Overhead	2.479	1.926	1.819	1.548	1.693	1.893
Net Operating Profit	25.749	23.071	16.348	41.028	28.111	26.861
Net Operating Margin %	23.8	16.9	10.6	14.1	10.3	14.0
Net Operating Profit %	21.7	15.6	9.6	13.6	9.8	13.1
Total All Products						
Net Sales	1,945.703	3,638.893	4,114.492	3,573.318	4,785.441	3,611.569
Cost of Goods Sold	1,752.723	3,381.962	3,937.447	3,456.785	2,520.073	3,009.798
Gross Operating Margin	192.980	256.931	177.045	116.533	2,265.368	601.771
Gross Operating Margin %	9.9	7.1	4.3	3.3	47.3	16.7
Sales Expense	86.855	125.207	160.707	179.346	233.207	157.064
Net Operating Margin	106.125	131.724	16.338	(62.813)	2,032.161	444.707
Overhead	41.548	32.115	30.371	25.836	28.256	31.625
Net Operating Profit	64.577	99.609	(14.033)	(88.649)	2,003.905	413.082
Net Operating Margin %	5.5	3.6	0.4	-1.8	42.5	12.3
Net Operating Profit %	3.3	2.7	-0.3	-2.5	41.9	11.4

Source: Appendix XIII

TABLE 17
 WHOLESAL COMMODITY SAMPLE
 ADJUSTED TO CWE STATED WHOLESAL SALES
 (Rs Millions)

	Year					Average
	1987	1988	1989	1990	1991	
	CWE Annual Reports					
Wholesale Sales	1,664.7	2,829.3	3,371.4	3,145.4	3,587.8	2,919.7
	Total Food Products Adjusted to CWE Annual Report Statement					
Net Sales	1,795.195	3,412.108	3,855.171	3,191.131	4,058.374	3,262.496
Cost of Goods Sold	1,639.753	3,175.426	3,711.426	3,136.210	1,793.904	2,691.344
Gross Operating Margin	155.442	236.682	143.745	54.921	2,264.970	571.152
Gross Operating Margin %	8.7	6.9	3.7	1.7	55.8	17.5
Sales Expense	80.779	113.939	146.244	165.001	149.253	131.043
Net Operating Margin	74.663	122.743	(2.499)	(110.080)	2,115.717	440.109
Overhead	38.656	29.226	27.643	23.772	18.089	27.477
Net Operating Profit	36.007	93.517	(30.142)	(133.852)	2,097.628	412.632
Net Operating Margin %	4.2	3.6	-0.1	-3.4	52.1	13.5
Net Operating Profit %	2.0	2.7	-0.8	-4.2	51.7	12.6

Source: Table 12 and Appendix XIII

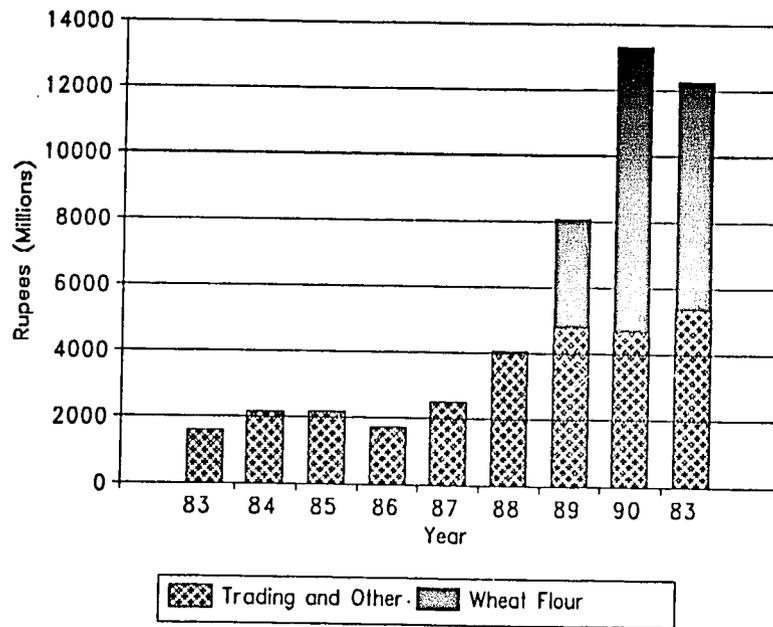


Figure 19. Total Sales, CWE, 1983-1991.

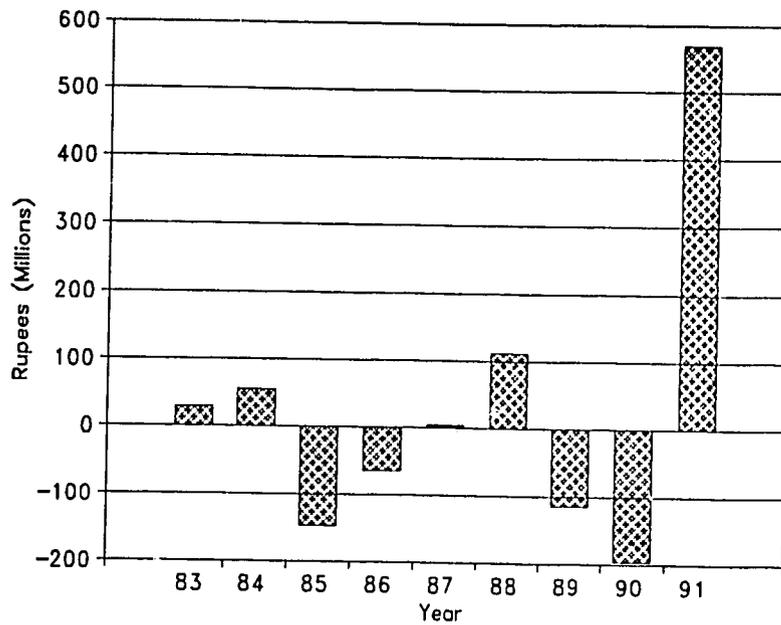


Figure 20. Total Profits, CWE, 1983-1991.

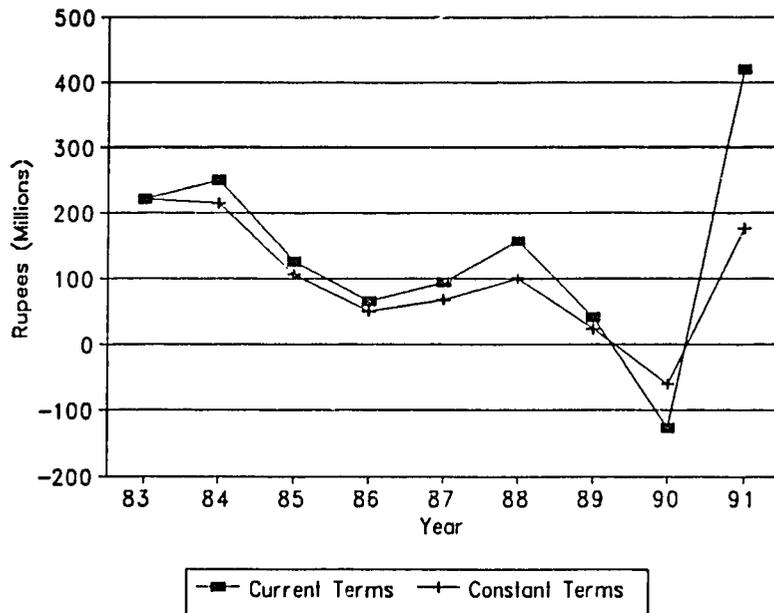


Figure 21. CWE Net Worth in Current and Constant Terms.

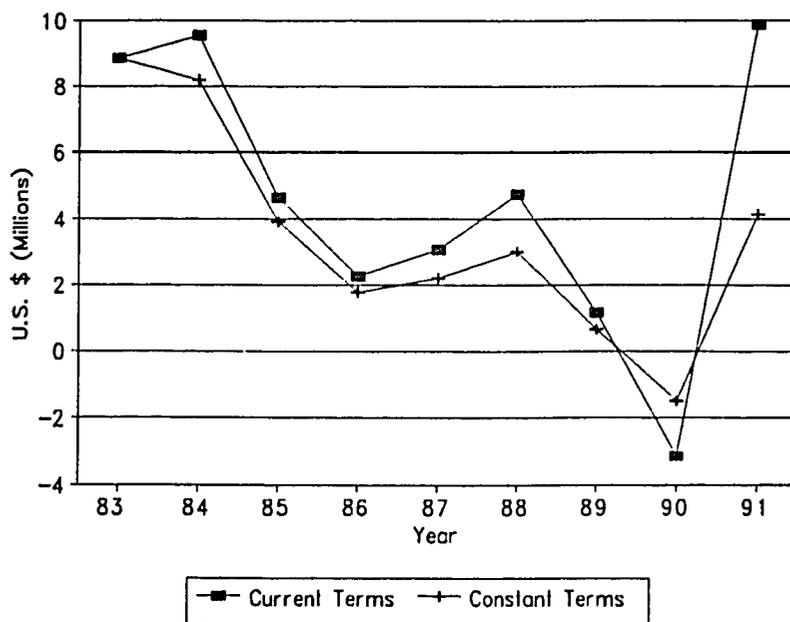


Figure 22. CWE Net Worth, US\$, in Current and Constant Terms.

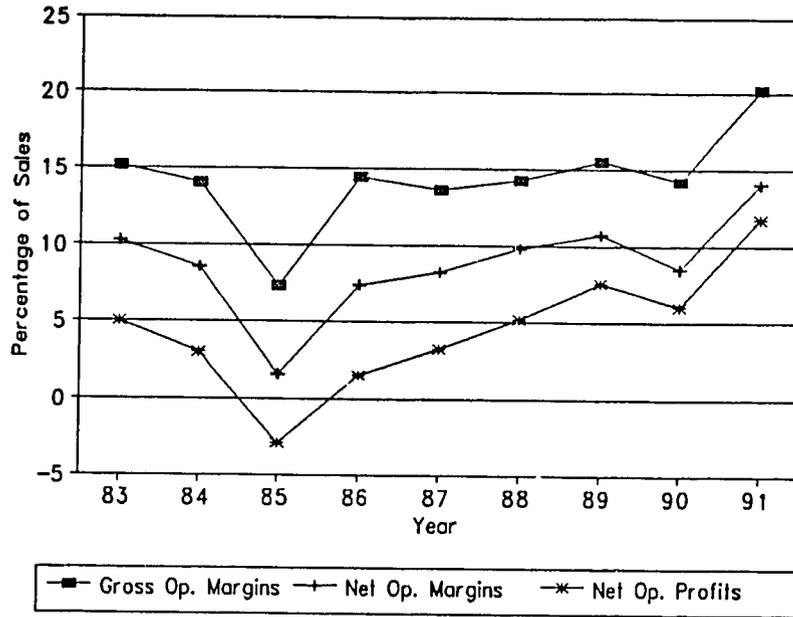


Figure 23. Operating Margins and Profits as a Percentage of Sales, CWE Wholesale and Retail Operations.

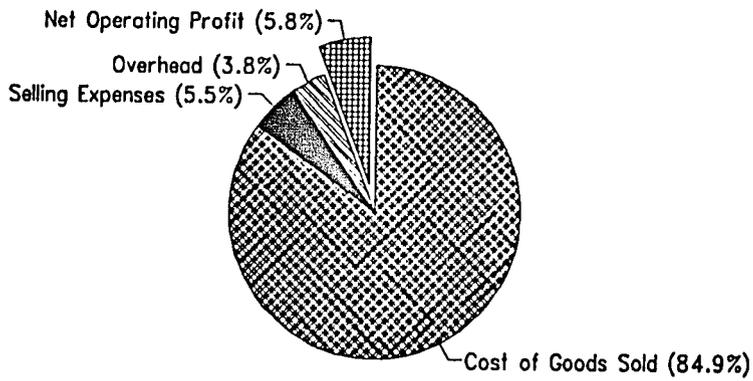


Figure 24. Composition of Sales, CWE Wholesale and Retail Operations 1983-1991.

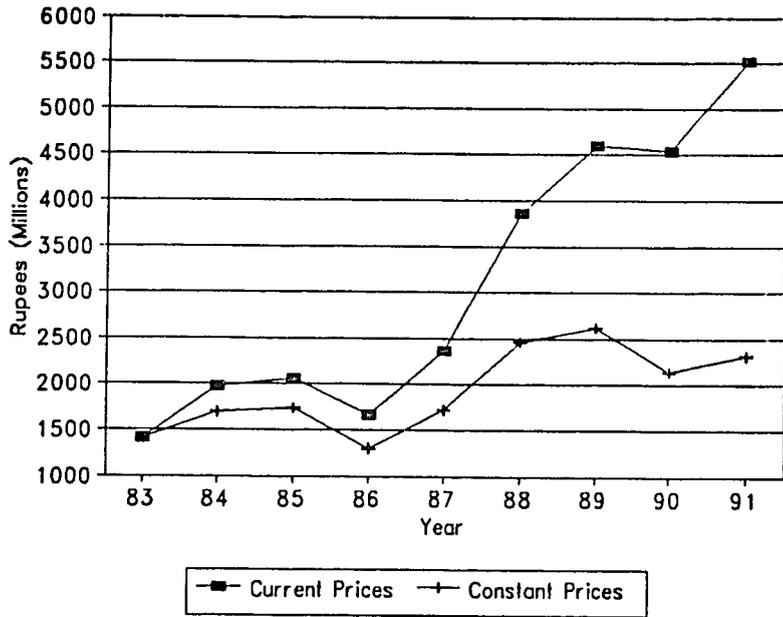


Figure 25. Net Sales at Current and Constant (Base - 1983) Prices, CWE Wholesale and Retail Operations.

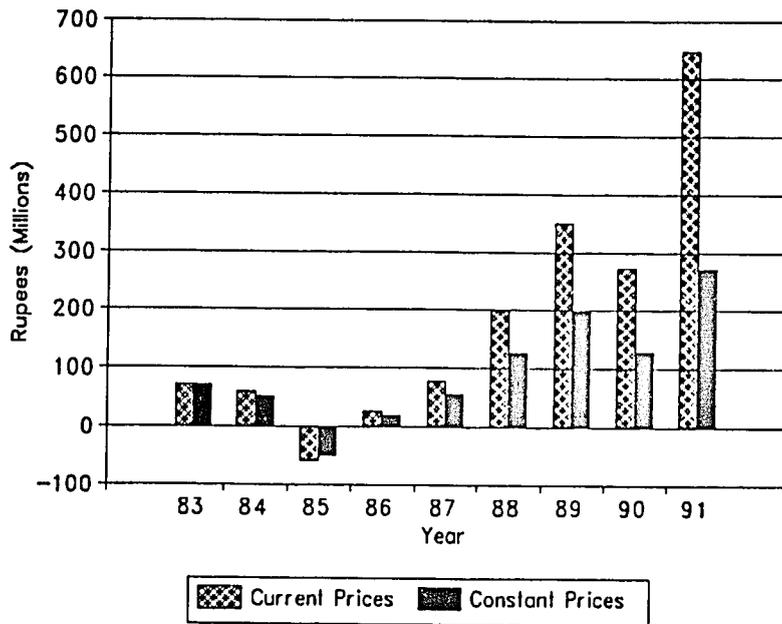


Figure 26. Net Operating Profit at Current and Constant (Base - 1983) Prices, CWE Wholesale and Retail Operations.

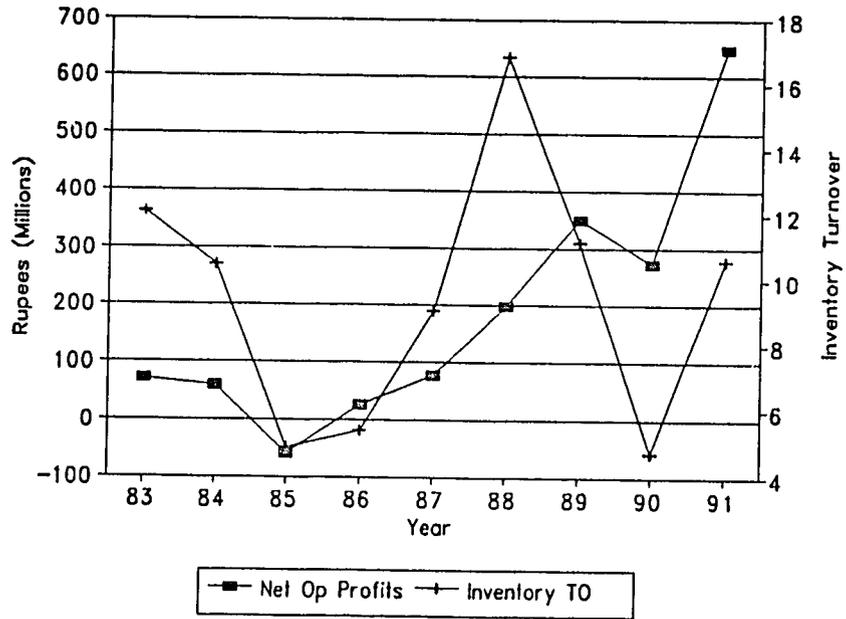


Figure 27. Relationship Between Inventory Turnover and Net Operating Profits.

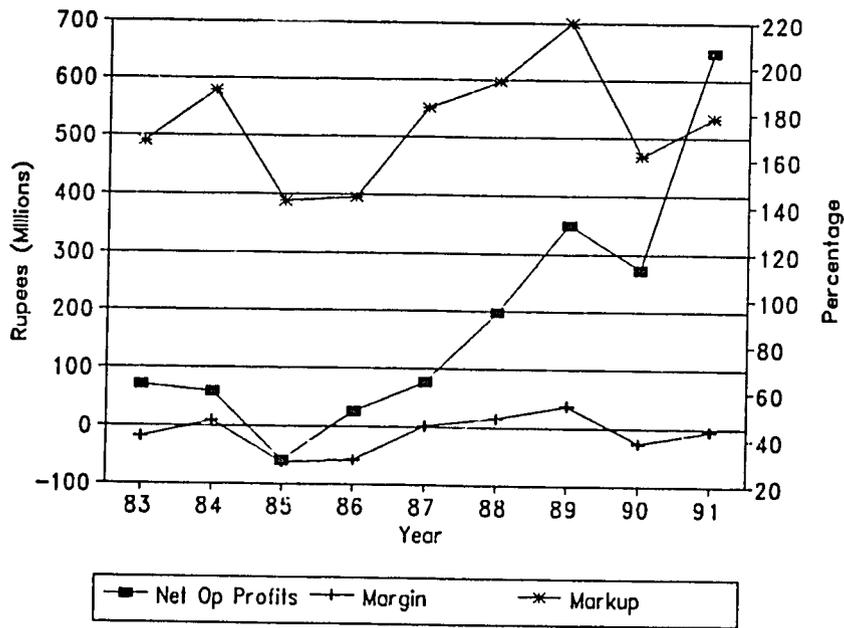


Figure 28. Relationship Between Product Margins and Markups and Net Operating Profits.

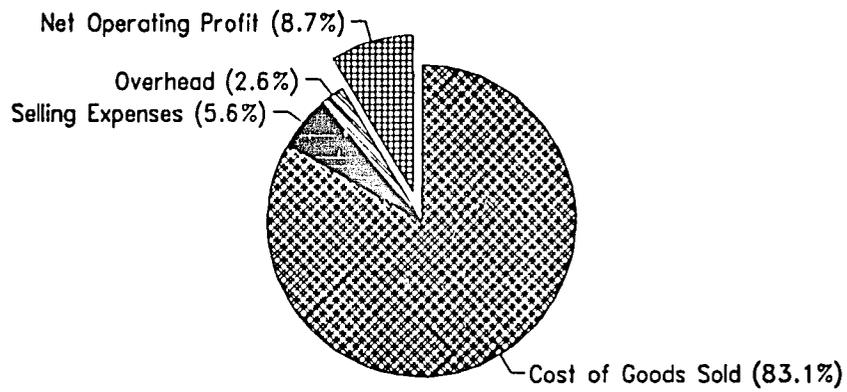


Figure 29. Composition of Sales, CWE Wholesale and Retail Operations 1989-1991.

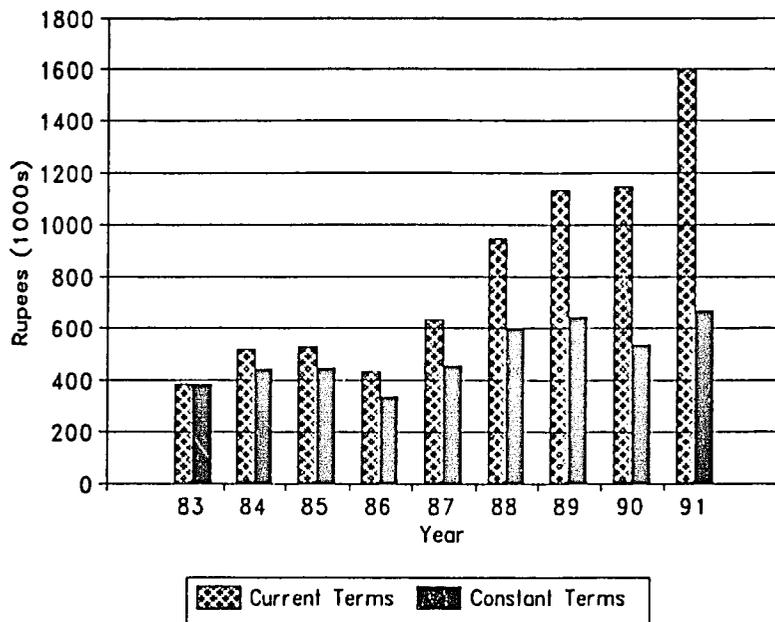


Figure 30. CWE Wholesale and Retail Sales per Employee.

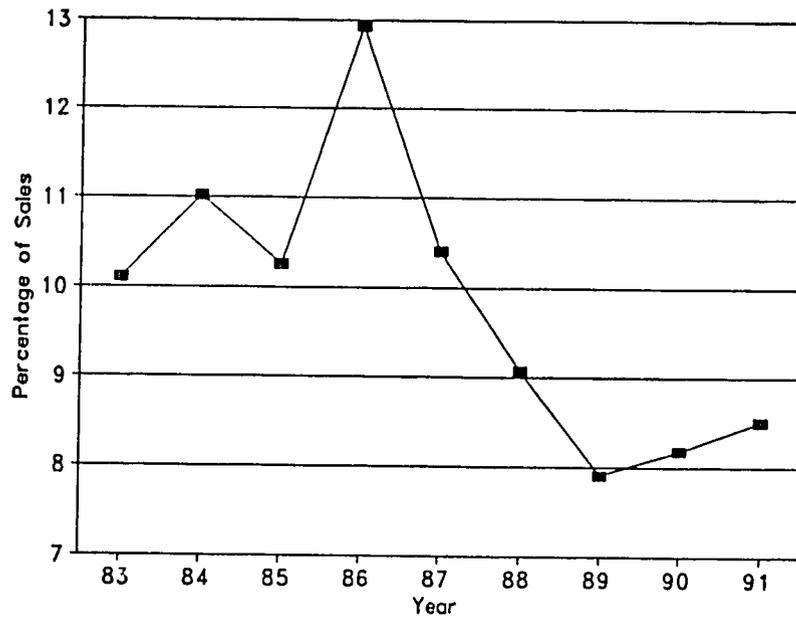


Figure 31. Sales Plus Overhead Expenses as a Percentage of Sales.

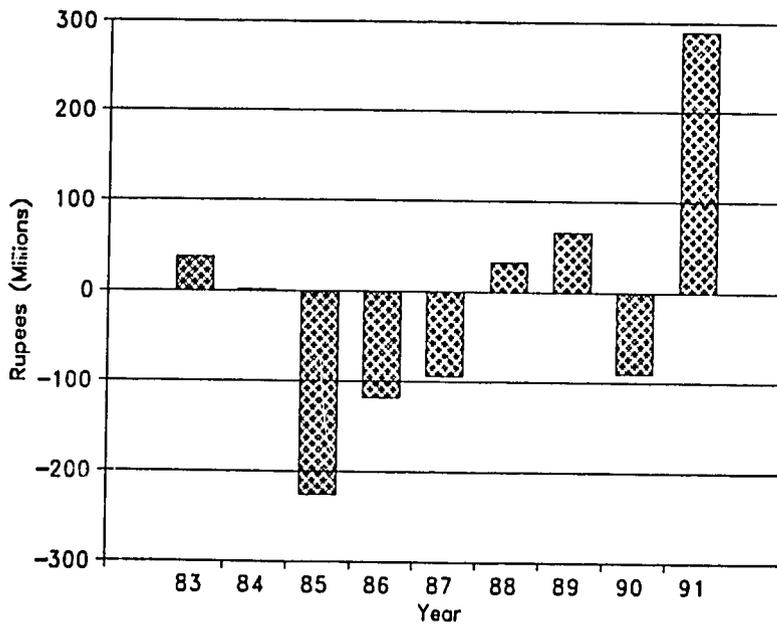


Figure 32. Net Profits After Estimated Interest Costs, CWE Wholesale and Retail Operations.

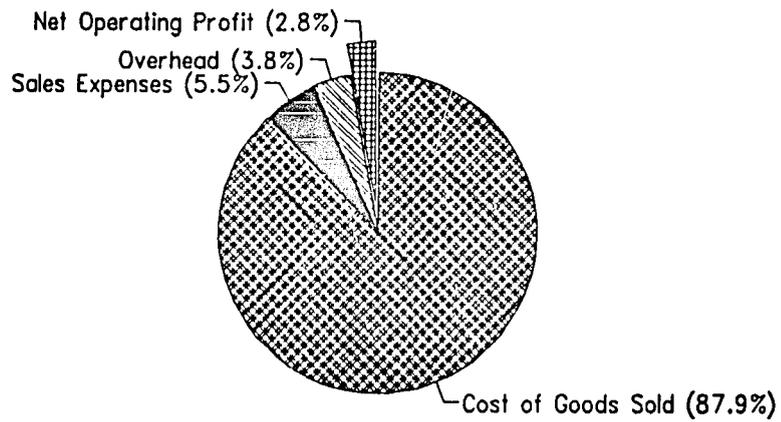


Figure 33. Composition of Sales, CWE Wholesale and Retail Operations 1983 - 1991, with inventory adjustments to reflect write-offs.

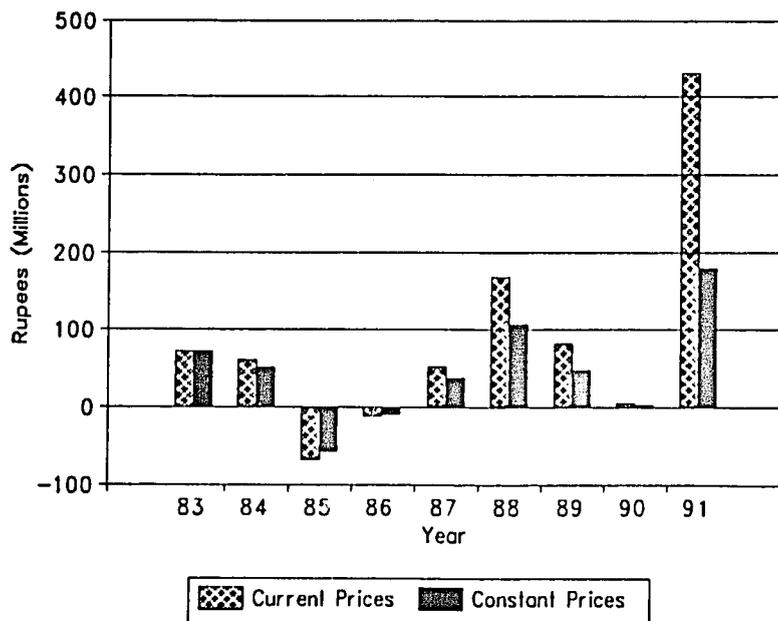


Figure 34. Net Operating Profits at Current and Constant (Base = 1983) Prices, CWE Wholesale and Retail Operation after inventory adjustments to reflect write-offs.

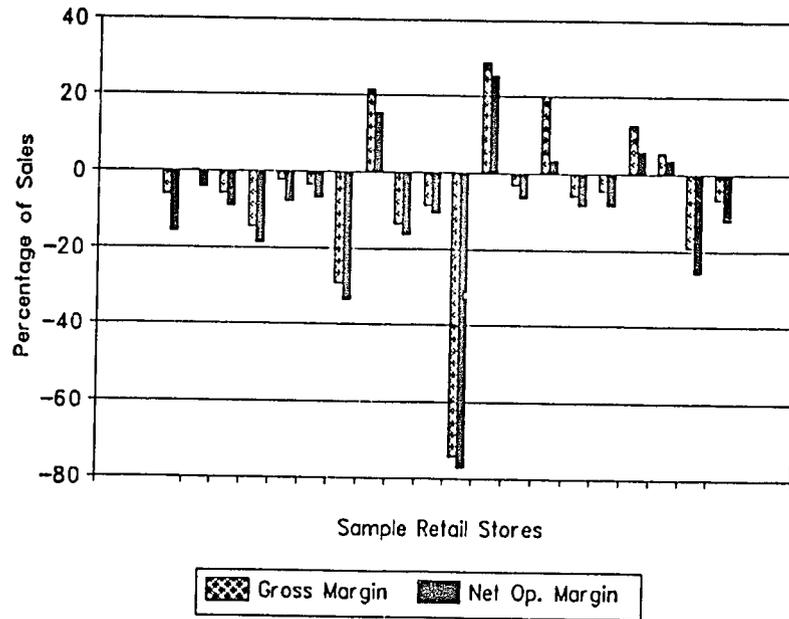


Figure 35. Gross and Net Operating Margins for Retail Store Sample.

APPENDIX I

STATEMENT OF WORK

Background

The U.S. foreign assistance program to Sri Lanka has included PL-480 Title I and II agreements since the 1950s. In 1991 under new food assistance legislation, the Title I and Title III programs were completely overhauled. Title I is now a relatively small concessional loan program with relatively little policy conditionality and is administered by USDA. Title III, a grant program, is now the Mission's major vehicle for policy reform. The new legislation also reflects the heightened policy reform. The new legislation also reflects the heightened interest of Congress and AID with promotion of food security. USAID/Sri Lanka uses food assistance, specifically its local currency generations, to support the Mission's policy dialogue, its bilateral projects, and the GSL policy reform and adjustment program. The Title III Agreement initiated a multi-year food assistance program to focus on the development impacts of food assistance and to provide a more reliable multi-year programming of food assistance.

This agreement pursues four major objectives:

1. Contribute to the overall food security for Sri Lanka, a country that will continue to depend on imports for meeting its food needs, in particular those of its poorest citizens;
2. Promote the development of free, private-sector dominated agricultural markets and of private-sector farmer organizations to promote rural interests;
3. Maximize the development impact of food assistance by using it as a mechanism to promote economic and agricultural policy reform, and to support income-generating projects operated by PVOs; and
4. Promote the critical balance of payment support during a period likely to be characterized by major efforts towards stabilization and structured adjustments.

The specific policy reform measures incorporated in the Title III Agreement are intended to reduce the role of the state and increase the role of the private sector in food and agricultural systems, thereby contributing directly to the achievement of USAID/Sri Lanka's strategy of agriculturally-led industrialization. USAID/Sri Lanka and GSL have maintained a productive dialogue on policy issues throughout the history of the Title I program, as reflected in the Self-Help Measures incorporated in previous Title I Agreements. In developing the policy reform measures for this Title III agreement with GSL, USAID/Sri Lanka has relied on current project experience, on-going policy dialogue, special studies and GSL's own studies and plans to determine those specific reform measures and implementation steps that would contribute to broad-based, sustainable growth in the agricultural sector. Local currency sales proceeds from Title III wheat are

in turn used to support the GSL policy reform agenda as reflected in the Agreement.

Throughout the Title III program, the focus remains on improving the food security of the Sri Lankan consumers, primarily through the vehicle of sectoral policy reform. The contribution of AID programs to food security is greatest when the host country is committed to economic and social policies that promote a broad-based pattern of growth and can be demonstrated by their effectiveness in improving one or more variables affecting food security such as food availability, food access, and food use and consumption.

Objective

The USAID/Sri Lanka policy regarding agricultural development in Sri Lanka is to emphasize the transition from subsistence to commercial agriculture. One instrument in promoting this change is the PL-480 Title III program which targets policy reforms designed to reduce the role of the state in the agricultural economy and create a favorable climate for the expansion of the food trade system. Many economic analyses of Sri Lanka's wheat and flour markets have stated that though the flow of goods have consistently cleared the market, it has been done at a high cost, indicating the existence of significant technical and economic influences. This is believed to be the result of high state intervention, and a movement towards greater liberalization may be the answer.

In order to better understand the working of the food system, one study was conducted in 1991 which analyzed the existing food importation and distribution system in Sri Lanka with respect to specific imported food commodities and the involvement of the GSL institutions participating in such a market system. The study determined that the wheat/flour marketing system exhibited major constraints and inefficiencies.

Wheat flour, along with rice, represents about 52% of the family budget of the Sri Lankan consumer. Importation and distribution of wheat/wheat flour is a monopoly of the government while wheat flour plays an important role in the diet and nutrition of the people. Thus the government, with USAID's concurrence, decided that an in-depth study of this system should be made to provide implementable options for enhancing its efficiency. These options and their consequences will be supported by quantitative information.

Scope of Work

The statement of work addresses the following two issues, which have been included as benchmarks in the 1992 PL-480 Title III Agreement.

- A. Study cost/price efficiency of the wheat flour distribution system (with reference to CWE and the Food Department) and recommend implementation procedures and methods which will result in significant increases of efficiency and competitiveness.
- B. Study the retail and wholesale operations of CWE and identify (1) unprofitable retail units and (2) uneconomic wholesale commodities.

Study Component A: Cost/Price Efficiency of Wheat Flour Distribution

- a. In the area of cost ascertainment for wheat/wheat flour distribution, the contractor will perform the following:
 1. The channel or channels of distribution will be the same as identified in the Food Importation and Distribution Study.
 2. The direct cost at relevant points along the channel will be identified.
 3. The overhead costs at each stage will be identified.
 4. The contractor will have to pay special attention to the magnitude and treatment of physical and quality losses.
- b. In the area of pricing, the contractor will perform the following:
 1. Determine the basis of wheat flour prices by describing the policy formulation process and detail the reasons given for adopting a particular pricing policy.
 2. Determine the relationship between cost and selling price of wheat flour.
- c. In the area of efficiency analysis, the contractor will determine:
 1. The effects (positive or negative) of the above pricing policy on wheat flour price efficiency and distribution efficiency.
 2. Possible alternative pricing policies, with special reference to flexible pricing.
 3. Cost control and monitoring by analyzing who's doing what and recommending possible alternatives for improved cost monitoring and control.
- d. The contractor will provide recommendations, for implementable actions in a prioritized order, to increase the economic efficiency of the wheat flour marketing and distribution system.
- e. The contractor will make a special in-depth study on the feasibility of adopting a system of "bondsmen" (along the lines of the similar successful operation for rice imports) to increase efficiency at macro and micro levels.

Study Component B: Retail/Wholesale Operations of CWE

- a. Construct a comprehensive expenditure, revenue, break-even, and profitability profile for each retail unit of CWE.

- b. An analysis will be made of the above profiles to ascertain the efficiency of the wholesale of the commodity.
- c. Make methodological suggestions for the adoption of management accounting techniques, both direct and marginal costs.

APPENDIX II

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APPENDIX III

WHEAT AND FLOUR IMPORTATION

Year	Wheat Imports (1000Mt)	Flour Imports (1000Mt)	Total Available Flour (1000Mt)	Per Capita Available Flour (Kilograms)
1952	0.2	218.3	218.4	27.28
1953	0.0	301.2	301.2	36.80
1954	0.1	209.7	209.8	24.98
1955	0.3	226.1	226.3	26.27
1956	0.1	191.6	191.7	21.68
1957	0.0	201.0	201.0	22.16
1958	0.0	234.1	234.1	25.15
1959	0.0	267.1	267.1	27.97
1960	0.0	173.5	173.5	17.71
1961	0.3	170.0	170.2	16.93
1962	0.1	181.2	181.3	17.57
1963	0.0	144.4	144.4	13.65
1964	0.3	331.7	331.9	30.64
1965	0.1	146.8	146.9	13.24
1966	0.3	372.8	373.0	32.86
1967	0.3	214.0	214.2	18.43
1968	18.0	351.7	364.7	30.65
1969	26.3	328.2	347.2	28.51
1970	30.7	375.0	397.1	31.86
1971	45.7	338.4	371.4	29.10
1972	72.3	329.3	381.4	29.28
1973	90.2	371.0	435.9	32.76
1974	83.7	449.2	509.5	37.49
1975	91.9	462.4	528.6	38.09
1976	88.6	386.2	450.0	31.75
1977	88.6	532.4	596.2	41.28
1978	81.5	632.0	690.7	47.32
1979	131.5	475.0	572.3	39.01
1980	197.1	370.0	515.8	34.98
1981	509.9	3.0	380.4	25.34
1982	495.0	6.6	372.9	24.54
1983	579.0	11.6	440.1	28.54
1984	571.0	3.0	425.5	27.28
1985	665.0	22.1	514.2	32.47
1986	681.0	10.0	513.9	31.89
1987	578.6	10.0	438.2	26.78
1988	612.0	35.6	488.5	29.45
1989	537.2	37.0	434.5	25.86
1990	719.7	137.0	669.6	39.32
1991	638.9	0.0	472.8	27.40

Source: Borsdorf
Cooperative Wholesale Establishment
Food Commissioners Department

APPENDIX IV

FOOD COMMISSIONER WHEAT AND FLOUR DATA

TABLE 1

WHEAT AND FLOUR IMPORT QUANTITY AND VALUE

	Flour (Mt)	Value (Rs)	Cost per Kilogram		Wheat (Mt)	Value (Rs)	Cost per Kilogram
1983	21,921	123,254,917	5.62	1983	571,779	2,284,169,213	2.96
1984	10,950	84,574,845	7.72	1984	571,290	2,080,792,558	2.70
1985				1985	665,143	2,861,972,285	3.18
1986	10,353	63,695,187	6.15	1986	580,945	2,508,009,102	3.19
1987	10,002	68,828,468	6.88	1987	578,621	2,146,465,963	2.75
1988	35,893	287,859,167	8.02	1988	612,080	2,893,060,889	3.50
1989	16,780	170,663,808	10.17	1989	309,332	1,928,888,621	4.61

<u>Monthly Wheat Imports</u>				<u>Monthly Flour Imports</u>			
	Imports (Mt)	Value (Rs)	Cost per Kilogram		Imports (Mt)	Value (Rs)	Cost per Kilogram
1989							
Jan	124,059	778,141,707	4.64		3,202	32,230,811	10.07
Mar	33,820	197,247,377	4.32		10,156	102,056,205	10.05
Apr	99,453	624,673,137	4.65		3,402	34,776,792	10.22
May	52,000	328,826,400	4.68				
1988							
Jan	55,000	171,054,881	2.30				
Feb	55,335	275,418,598	3.68				
Mar	63,004	342,049,761	4.02		3,944	30,966,018	7.85
Apr	101,742	354,952,038	2.58		3,944	31,013,760	7.86
May	11,054	74,084,579	4.96		3,944	31,073,922	7.88
June	52,265	101,232,865	1.43		6,656	50,821,186	7.64
July	48,699	195,372,596	2.97		7,207	57,591,708	7.99
Aug	62,733	403,261,407	4.76		3,353	26,450,977	7.89
Sept	6,355	52,485,339	6.11		3,353	26,710,785	7.97
Oct	52,289	279,469,685	3.96				
Nov	47,967	321,590,356	4.96				
Dec	55,657	322,088,784	4.28		3,402	33,230,811	9.77

Source: Food Commissioners Department Annual Reports

TABLE 2
 FOOD COMMISSIONERS WHEAT IMPORT AND FLOUR DISTRIBUTION COSTS
 1987 to 1989
 (Rupees)

	1987	1988	1989
Wheat CIF (1)	2,288,283,521	3,469,595,457	1,929,405,010
Demurrage	11,872,560	33,353,614	5,310,292
Landing Charges (2)	41,338,776		419,380,187
Inspection	945,945	1,321,771	212,286
Tender Preparation	1,035,681	909,275	2,706,790
Total Import Costs	2,342,802,423	3,504,185,721	2,356,498,176
Bagging	244,157,319	197,846,479	200,157,682
Generator	5,512,552	15,416,107	11,233,595
Insurance	522,909		
Transport	187,434,410	190,140,488	169,051,398
Losses	172,516	100,917	249,148
Interest	93,621,612	80,678,365	68,991,279
 Total Direct Costs	 512,171,605	 532,409,411	 437,761,870
 Overhead	 200,240,577	 237,373,196	 51,548,796

- (1) 1987 is CIF, 1988 is CIF and landing charges, 1989 is wheat and insurance (adjusted number for wheat used because original number could not be reconciled).
- (2) Landing charges in 1989 include ocean freight (adjusted number used because original number could not be reconciled).

Source: LAMSCO
 Table 1

TABLE 3
ANALYSIS OF FOOD COMMISSIONERS COST DATA
1987 to 1989

	1987	1988	1989
	-----Metric Tons-----		
Wheat Imported	578,621	612,080	309,332
Flour Imported	10,002	35,893	16,760
Flour Received at Mill	474,161	487,796	540,304
Flour Transported	460,623	497,128	423,747
	Cost Per Kilogram of Flour		
Total Import Costs	5.472	7.737	10.295
Bagging	0.515	0.406	0.370
Generator	0.012	0.032	0.021
Insurance	0.001	0.002	0.001
Transport	0.365	0.477	0.370
Losses	0.000	0.000	0.000
Interest	0.219	0.178	0.301
Total Direct Costs	1.112	1.095	1.064
Overhead	0.468	0.524	0.450
Total Direct and Overhead Costs	1.579	1.619	1.514
Total All Costs	7.051	9.356	11.809
Estimate of Importation Charges	0.129	0.170	0.217
CIF Cost Wheat	5.343	7.567	10.078

Sources: Food Commissioners Department Annual Reports
LAMSCO
Table 2

APPENDIX V

COOPERATIVE WHOLESALE ESTABLISHMENT WHEAT AND FLOUR DATA

TABLE 1

CWE FOOD DEPARTMENT ACCOUNT
WHEAT AND WHEAT FLOUR

	1989	1990	1991
Sales	3,294,759,537	8,635,563,295	6,913,757,608
Turnover Tax		(3,394,504)	(264,685,825)
Withholding Tax		(32,902,027)	
Net Sales	3,294,759,537	8,599,266,764	6,649,071,783
Opening Stock		1,817,012,916	2,179,004,353
Purchases	4,663,599,450	6,496,182,147	3,239,622,500
Import Charges	344,011,285	1,159,834,997	578,003,843
Duty & Dues	1,450,904	207,013,191	802,665,660
Stamp Duties	144,586,105	195,100,244	58,351,890
Landing Charges	41,194,201	61,347,650	24,347,518
Loss on imports	10,375,682	14,046,927	84,204
Closing Stock	(1,630,530,568)	(2,179,004,353)	(1,408,718,843)
Stock Shortage	(286,235,582)	(293,399,834)	(202,873,119)
Cost of Goods Sold	3,288,451,477	7,478,133,885	5,270,488,006
Gross Operating Margin	6,308,060	1,121,132,879	1,378,583,777
Distribution	136,569,524	519,886,517	540,146,799
Packing Material	58,213,051	228,573,885	231,344,462
Electrical Charges	17,613,297	27,391,083	26,366,017
Insurance		884,095	884,095
Bank Interest	74,989,285	186,109,529	192,091,375
Bank Charges	1,759,654	9,956,799	8,186,848
Total Direct Expenses	289,144,811	972,801,908	999,019,596
Net Operating Margin	(282,836,751)	148,330,971	379,564,181
Printing/Stationary	528,171	69,464	379,207
TR Stamp Duty	829,165	992,450	1,021,285
Other	9,910	26,874	2,826,071
Trade Mission	1,013,299		293,938
CWE Administration	31,081,094	74,640,869	110,875,895
Total Indirect Costs	33,461,639	75,729,657	115,396,396
Net Profit	(316,298,390)	72,601,314	264,167,785
Subsidy	310,188,163		
Interest Income	3,415,467	13,427,231	
Other Income	847,460	19,786,468	
Net Income	(1,847,300)	105,815,013	264,167,785

Source: CWE Annual Reports

TABLE 2

ANALYSIS OF CWE FOOD DEPARTMENT ACCOUNT DATA
 OPERATING RATIOS AS A PERCENT OF SALES
 1987 to 1989

	<u>1989</u>	<u>1990</u>	<u>1991</u>
Cost of goods sold	99.8	86.6	76.2
Gross Operating Margin	0.2	13.0	20.7
Direct Costs	8.8	11.3	15.0
Net Operating Margin	-8.6	1.7	5.7
Overhead	1.0	0.9	1.7
Net Profit	-9.6	0.8	4.0
Net Income	-0.1	1.2	4.0

Source: Table 1

TABLE 3
ANALYSIS OF CWE FOOD DEPARTMENT ACCOUNT DATA
COST PER KILOGRAM OF FLOUR
1987 to 1989

	1989	1990	1991
	Mt	Mt	Mt
Wheat Imported	227,829	719,681	638,682
Flour Imported	20,236	137,003	0
Total Flour	188,829	669,567	472,625
Rupees per Kilogram of Flour			
Purchases	24.697	9.702	6.855
Import Charges	1.822	1.732	1.223
Duty & Dues	0.008	0.309	1.698
Stamp Duties	0.766	0.291	0.123
Landing Charges	0.218	0.092	0.052
Loss on imports	0.055	0.021	0.000
Total Import Costs	27.566	12.147	9.951
Distribution	0.930	0.930	0.930
Packing Material	0.345	0.429	0.489
Electrical Charges	0.104	0.051	0.056
Insurance	0.000	0.001	0.002
Bank Interest	0.406	0.293	0.424
Total Direct Costs	1.786	1.705	1.901
Overhead	0.239	0.153	0.330
Total Direct and Overhead Costs	2.026	1.858	2.231
Total All Costs	29.591	14.005	12.182
Importation Charge	2.868	2.445	3.096
CIF Cost Wheat	24.697	9.702	6.855

Source: Table 1

TABLE 4
 ANALYSIS OF CWE WHEAT IMPORT AND DISTRIBUTION OPERATIONS
 COST PER KILOGRAM OF FLOUR
 1987 to 1989

	1989	1990	1991
Purchases CIF	10.370	9.380	6.720
All Import Charges	0.470	0.630	2.050
Total Import Costs	10.840	10.010	8.770
Distribution	0.930	0.930	0.930
Packing Material	0.345	0.429	0.489
Electrical Charges	0.104	0.051	0.056
Insurance	0.000	0.001	0.002
Bank Interest	0.406	0.293	0.424
Total Direct Costs	1.786	1.705	1.901
Overhead	0.239	0.153	0.330
Total Direct and Overhead Costs	2.026	1.858	2.231
Total All Costs	12.866	11.868	11.001

Source: Table 3
 Appendix VI

APPENDIX VI

WHEAT AND FLOUR IMPORT COST SHEETS

1992 Wheat
Calculated from Various Sources

Date	Ship	Shipper	Wheat	Discharge Weight	C&F Cost	Landed Cost	
						Kilogram Wheat	Kilogram Flour
	Liberty Sun	CCC	SRW/DNS	48,884.980	303,939,206.42	6.09	8.48
10/31	Taeschoorn	CCC	SRW	31,103.296	189,506,158.85	6.09	8.48
9/21	Liberty Wave	CCC	SRW	56,954.647	344,689,523.64	6.05	8.42
8/29	Liberty Sea	CCC	HRW	49,885.000	301,904,020.00	6.05	8.42
7/31	Atlantic S	Teopfer	SUHW	52,379.250	321,491,705.47	6.14	8.54
7/9	Despina	CCC1		38,112.140	242,799,676.37	6.37	8.85
7/4	Liberty Star	CCC	HRW/DNS	49,885.000	297,562,029.60	5.96	8.30
6/10	Mariner	Cont Gr		48,781.544	299,409,818.04	6.14	8.54
5/15	Argentine		ABW	49,885.000	317,253,634.50	6.36	8.84
5/10	Marijeane	Cont Gr		51,551.159	342,014,617.85	6.63	9.21
4/22	Varena	Dreyfus		49,333.272	320,936,120.35	6.51	9.04
4/11	Starshine	Dreyfus	HRW	52,378.833	286,693,970.85	5.47	7.64
3/21	Kapitan Y	Mitsui		52,379.250	333,984,716.25	6.38	8.86
	Marigo. K.	Cargill	HRW	47,702.032	273,575,935.56	5.74	7.99
	T-Topper	Cont Gr	SRW	31,427.550	180,240,148.29	5.74	7.99
		TOTAL		711,642.953	4,356,011,282.039		
		PL480		237,712.923			
		COMM		473,930.030			

1991 Wheat

Date	Ship	Shipper	Wheat	Discharge Weight	C&F Cost	Insurance	Duties	Clearing	Other	Total Landed Cost	Cost per Kilogram Flour
11/4	Omi Mo.	CCC	DNS	47,488.227	251,509,522.46	506,289.40	72,347,138.00	1,645,111.14	2,515,095.22	328,523,156.22	9.35
10/28	Liberty Sea	CCC	SRW	47,448.382	250,408,836.01	487,340.00	72,299,726.00	1,643,701.03	2,504,088.36	327,343,691.40	9.32
9/21	Liberty Sun	CCC	SWW	52,325.751	274,589,673.90	540,458.00	78,969,976.00	1,800,467.50	2,745,896.74	358,646,472.14	9.26
	Marine P	CCCI	HRW	40,719.530	251,268,668.02	1,414,461.55	115,308,234.00	1,509,701.00	11,347,660.41	380,848,724.98	12.64
9/8	Star of Texas	CCC	DNS	35,106.067	183,692,495.79	357,540.40	52,947,479.00	1,205,415.74	1,836,724.96	240,039,655.89	9.24
9/3	Kapitan G	CCC	DNS	19,344.685	101,221,064.47	197,053.55	29,485,982.00	665,695.66	1,012,210.64	132,582,006.32	9.26
8/27	Waimea	CCC	SRW	52,381.354	274,085,434.61	533,242.00	78,966,789.00	1,801,150.42	2,740,854.35	358,127,470.38	9.24
8/16	Olympic Glow	U/EQ	HRW	52,302.813	256,498,605.82	817,746.20	87,401,678.00	2,090,332.00	6,675,875.91	353,484,237.93	9.13
	Broom Park		AW	4,982.265	21,657,899.77	142,475.85	12,689,965.07	188,297.00	281,618.15	34,960,255.84	9.48
6/8	Delphi	TGrain	HRW	52,320.726	252,190,488.51	805,227.90	85,754,063.00	1,667,413.00	9,200,382.09	349,617,574.50	9.03
5/19	Ascona	Cargill	SW	53,325.166	257,577,760.12	1,098,035.05	87,297,228.00	1,943,622.00	12,253,307.69	360,169,952.86	9.13
5/1	Ravenna	Dreyfus	HRW	52,360.182	249,068,467.82	502,783.05	84,971,122.00	2,004,106.00	6,367,102.86	342,913,581.73	8.85
3/19	Waimea	Peavy	HRW	52,418.683	240,080,282.33	721,935.54	41,562,462.81	1,993,758.00	6,862,861.60	291,221,300.28	7.51
1/27	Snestad	Dreyfus	SWW	52,426.949	211,925,066.06	698,810.74	36,725,177.00	1,898,337.00	5,768,616.32	257,016,007.12	6.62
12/27	Nyon	Magrish	SWW	52,448.302	211,498,290.94	335,676.10	35,616,826.00	1,907,401.00	6,591,746.50	255,949,940.54	6.59
	Starshine			52,281.657	281,744,669.52	440,568.70		8,260,681.93	8,408,665.92	298,854,586.07	7.72
		TOTAL		719,680.739	3,569,017,226.150					4,670,298,614.200	8.77
		PL480		294,813.996						C&F COST	6.70
		COMM		424,866.743						Difference	2.07
										CIF COST	6.70

Source: CWE

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1990 Wheat

Date	Ship	Shipper	Wheat	Discharge Weight	C&F Cost	Insurance	Duties	Clearing	Other	Total Landed Cost	Cost per Kilogram Flour
	Star of Texas	CCC1		,995.405	200,812,441.37	683,381.92	51,254,395.00	1,301,500.00	10,323,468.10	264,375,186.39	10.21
	Spirit of Texas	CCC1		35,095.180	203,583,476.58	600,415.85	35,453,716.00	1,349,946.00	10,939,898.75	251,927,453.18	9.70
	Danakos	CCC1		16,456.043	106,666,626.49	113,382.50	18,533,738.00	693,122.00	4,063,846.92	130,070,715.91	10.68
	Marine P	CCC1		48,765.386	374,683,932.00	852,377.25		1,753,995.00	15,731,232.39	393,027,536.64	10.89
	Liberty Wave	CCC1		48,050.731	375,921,264.96	867,327.18		1,781,032.00	16,104,390.22	394,674,014.36	11.10
	Conquistador			35,800.913	289,439,995.63	493,457.48		1,184,073.00	10,034,274.94	301,151,801.05	11.37
	Hector			31,439.205	248,543,977.52	456,208.20		1,129,866.00	10,342,685.30	260,472,737.02	11.20
	Cleo			19,979.883	157,984,848.00			704,073.00	1,579,848.48	160,268,769.48	10.84
	Beigiha			52,450.428	428,272,473.70	865,298.70		1,732,500.00	14,851,023.98	445,721,296.38	11.48
	Concord B			5,004.419	44,736,158.37	93,029.05		181,562.00	352,938.50	45,363,687.92	12.25
	Trade Cour.			48,233.173	343,325,164.60	698,595.35		1,809,903.00	12,628,214.76	358,461,877.71	10.04
	Stavanta			19,935.743	143,253,264.00			772,000.00	1,432,532.64	145,457,796.64	9.86
	Nordpol			52,399.401	355,608,319.72	724,996.00		1,827,221.00	12,676,217.54	370,836,754.26	9.56
	Sanka Daisy			49,234.210	304,239,872.10	1,389,268.15		1,717,680.00	11,785,487.60	319,132,307.85	8.76
	Soyoy Derm			36,725.299	227,783,422.72	1,629,472.96		1,217,601.00	11,738,308.92	242,368,805.60	8.92
	Nassimiliano			51,809.821	292,475,369.73	1,248,174.60		1,715,175.00	10,824,840.06	306,263,559.39	7.99
	Zetourbal			52,307.163	322,542,667.10	856,099.15		1,913,438.00	10,701,205.12	336,013,409.37	8.68
	TOTAL			638,682.403	4,419,873,274.590					4,725,587,709.150	10.00
	PL480			183,362.745						C&F COST	9.35
	COMM			455,319.658						Difference	0.65
										CIF COST	9.35

Source: CWE

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1989 Wheat

Date	Ship	Shipper	Wheat	Discharge Weight	C&F Cost	Insurance	Duties	Clearing	Other	Landed Cost	Flour
1989	Liberty Sun	CCC1		49,982.108	333,356,177.00	755,276.92		1,688,923.00	14,567,891.08	350,368,268.00	9.47
	Liberty Star	CCC1		43,626.819	326,988,309.97	528,566.75		1,997,022.00	14,158,834.18	343,672,732.90	10.65
	Kin Sharing	CCC1		31,418.544	243,544,216.60	492,724.17		1,039,467.00	9,752,273.35	254,828,681.12	10.96
	Happy Man			50,321.283	422,234,418.67	853,966.20		2,296,694.15	14,971,833.60	440,356,912.62	11.83
	Posidon B			52,479.908	418,851,276.24	810,810.00		1,795,140.00	16,299,151.50	437,756,377.74	11.27
		TOTAL		227,828.662	1,744,974,398.480					1,826,982,972.380	10.84
		PL480		125,027.471						C&F COST	10.35
		COMM		102,801.191						Difference	0.49

Source: CWE

db

1990 Flour

Date	Discharge Weight	C&F Cost	Insurance	Duties	Clearing	Other	Total Landed Cost	Cost per Kilogram Flour
CCC1	10,290.000	105,294,869.72	305,681.23	19,123,787.00	2,022,737.42	4,883,350.57	131,630,425.94	12.79
CCC1	3,150.000	32,453,987.41	52,569.42	3,293,631.00	649,108.90	1,515,879.71	37,965,236.44	12.01
CCC1	13,064.000	132,680,046.83	329,211.11	24,633,504.00	2,197,377.41	6,309,526.39	166,149,665.74	12.72
CCC1	12,690.000	131,307,248.08	383,168.69	23,793,437.00	2,527,662.00	6,536,007.90	164,547,523.67	12.97
CCC1	14,459.650	149,676,351.27	339,220.75	21,259,192.00	2,634,565.30	5,697,555.39	179,606,884.71	12.42
	10,550.650	126,432,320.33	255,526.20		1,854,579.50	6,373,516.55	134,915,942.58	12.79
	13,125.000	143,761,674.06	216,168.45		2,190,325.50	4,956,103.24	151,124,271.25	11.51
	13,123.300	149,810,146.64	292,951.40		2,562,462.00	4,665,670.41	157,331,230.45	11.99
	13,125.000	119,381,231.56	290,825.25	16,897,027.00	2,237,299.50	3,743,076.81	142,549,460.12	10.86
	13,052.950	118,752,928.14	269,338.60	16,700,106.00	1,505,303.50	3,890,804.45	141,118,480.69	10.81
	8,925.400	85,688,154.34	160,792.00	12,497,505.00	1,513,943.00	716,661.20	100,577,055.54	11.27
	10,000.000	66,739,610.14	160,630.00	12,486,047.00	1,810,840.00	3,917,063.09	85,114,190.23	8.51
	760.500	6,711,690.58	11,511.45	942,067.00	116,029.00	304,641.19	8,085,939.22	10.63
	676.500	7,726,640.72	15,590.80	1,084,852.00	133,761.79	329,150.09	9,289,995.40	13.73
TOTAL	137,002.950	1,376,416,899.820					1,610,006,301.98	11.75
PL480	53,663.650							
COMM	83,339.300							
							C&F	10.05

Source: CWE

1989 Flour

Date	Discharge Weight	C&F Cost	Insurance	Duties	Clearing	Other	Total Landed Cost	Cost per Kilogram Flour
	3,400.100	43,622,517.98	88,128.00		572,612.00	2,265,511.33	46,548,769.31	13.69
	6,361.410	81,615,458.98	164,887.75		1,056,539.00	5,621,649.72	88,458,535.45	13.91
	10,474.800	120,074,876.25	242,817.75		1,956,733.50	4,981,473.76	127,255,901.26	12.15
TOTAL	20,236.310	245,312,853.210					C&F	11.46
PL480	0.000							
COMM	20,236.310							

Source: CWE

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APPENDIX VII

WHEAT PRICE DATA

Year	Wheat Import Price C&F (Rs/Mt)	Wheat Import Price Flour Equiv/C&F (Rs/Kg)	Wheat Import Price Flour Equiv/C&F Real term (Rs/Kg)	Wheat Import Price C&F (US\$/Mt)	Wheat Import Price Flour Equiv/C&F (US\$/Mt)	C&F Flour Price Cost (Rs/Kg)	Flour Price Supply Station (Rs/Kg)	Flour Price Wholesale (Rs/Kg)	Flour Price Retail (Rs/Kg)	Difference C&F - Supply Station (Rs/Kg)	Consumer Price Real Terms (RS/KG)
1967	425	0.6		71.43	99.21	0.590					
1968	421	0.6		70.76	98.27	0.585					
1969	395	0.5		66.39	92.20	0.549					
1970	416	0.6	0.6	69.92	97.11	0.578					
1971	527	0.7	0.7	88.57	123.02	0.732					
1972	433	0.6	0.6	70.41	97.79	0.601					
1973	695	1.0	1.8	108.93	151.30	0.965					
1974	1440	2.0	1.5	215.89	299.85	2.000					
1975	1529	2.1	1.5	215.35	299.10	2.124					
1976	1602	2.2	1.5	190.04	263.94	2.225					
1977	1199	1.7	1.1	134.72	197.11	1.665		1.07	1.32		
1978	1673	2.3	1.4	107.24	148.95	2.324		2.22	2.47		1.50
1979	2250	3.0	1.7	144.42	195.16	3.041		2.55	3.00		1.64
1980	2809	3.8	1.6	169.93	229.64	3.796		4.78	5.23		2.27
1981	3670	5.0	1.8	186.58	252.13	4.959		5.32	5.77		2.13
1982	3697	5.0	1.7	184.85	249.80	4.996		5.85	6.30		2.09
1983	3833	5.2	1.5	162.97	220.23	5.180		6.37	6.82		1.99
1984	4406	6.0	1.5	173.26	234.14	5.954		7.31	7.76		1.94
1985	4157	5.6	1.4	151.66	204.95	5.618	7.25	7.45	7.90	1.63	1.94
1986	3481	4.7	1.1	124.14	167.76	4.704	7.25	7.45	7.90	2.55	1.80
1987	3954	5.3	1.1	134.49	181.74	5.343	7.25	7.45	7.90	1.90	1.67
1988	5595	7.6	1.4	175.94	237.76	7.561	7.25	7.45	7.90	-0.31	1.47
1989	6840	9.2	1.5	189.63	256.26	9.243	8.33	8.53	8.98	-0.91	1.49
1990	6920	9.4	1.3	172.74	233.43	9.351	12.92	13.14	13.59	3.57	1.86
1991	4959	6.7	0.8	120.42	162.73	6.701	11.45	11.80	12.25	4.75	1.49

Source: Borsdorf, Food Commissioner, Cooperative Wholesale Establishment

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APPENDIX VIII

TRUCK FREIGHT RATES
(Rupees per Metric Ton)

<u>Date</u>	<u>Kilometers</u>	<u>Flat Roads Rate</u>	<u>Hilly Roads Rate</u>
August, 1985 to October, 1989	1-100	158	173
	100-200	141	156
November, 1989 to June, 1990	1-100	197	216
	100-200	176	195
August, 1985 to October, 1989	1-100	224	245
	100-200	200	221

Source: LAMSCO

APPENDIX IX

COOPERATIVE WHOLESALE ESTABLISHMENT TOTAL OPERATIONS

TABLE 1

CWE PROFIT AND LOSS SUMMARY
(Rupees)

Year	Sales	Gross Margin	Sales Expense	Administrative Expense	Interest	Other Income Expenses	Taxes	Net Profits
1983	1,582,626,013	228,395,863	73,610,136	69,410,230	50,046,433	8,520,732	16,000,000	27,849,796
1984	2,157,409,463	333,162,787	108,675,883	78,794,241	81,680,946	14,752,702	23,750,000	55,014,419
1985	2,188,025,460	154,357,162	118,953,518	92,388,289	140,491,415	49,537,236		-147,938,824
1986	1,744,741,585	241,987,362	116,989,837	97,326,180	138,937,204	46,304,251		-64,961,608
1987	2,509,465,740	327,943,930	127,851,503	125,145,711	134,400,757	62,673,769		3,219,728
1988	4,063,832,264	572,608,800	170,880,218	179,384,120	145,649,746	33,859,800		110,554,516
1989	8,105,652,431	696,746,796	219,300,995	144,197,108	264,222,520	-183,670,353		-114,644,180
1990	13,284,704,479	733,776,537	258,306,148	113,389,345	361,820,756	-196,621,457		-196,361,169
1991	12,286,850,655	1,375,714,075	343,624,892	126,207,331	407,993,346	70,361,679		568,250,185

Source: Cooperative Wholesale Establishment Annual Reports

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TABLE 2

CWE BALANCE SHEET SUMMARY

Year	Current Assets	Fixed Assets	Deferred Expense	Total Assets	Current Liabilities	Long-term Liabilities	Total Liabilities	Net Worth	Total
1983	597,622,347	315,635,655	29,784,750	943,042,752	551,626,566	170,136,000	721,762,566	221,280,186	943,042,752
1984	1,103,636,906	393,849,685	34,592,000	1,532,048,591	1,142,961,861	138,939,500	1,281,901,361	250,507,230	1,532,408,591
1985	939,906,061	463,656,179	33,641,750	1,437,203,990	1,213,195,489	97,075,650	1,310,271,139	126,932,851	1,437,203,990
1986	742,409,950	536,310,099	33,818,947	1,312,538,996	855,660,150	391,827,240	1,247,487,390	65,051,606	1,312,538,996
1987	774,086,285	512,351,902	39,779,612	1,326,217,799	917,387,968	314,574,580	1,231,962,548	94,255,251	1,326,217,799
1988	1,325,092,466	538,797,114	32,960,250	1,896,849,830	1,649,166,754	90,935,070	1,740,101,824	156,748,006	1,896,849,830
1989	6,009,214,495	560,263,221	26,140,888	6,595,618,604	6,513,412,041	40,102,736	6,553,514,777	42,103,827	6,595,618,604
1990	5,287,423,338	572,413,671	19,321,526	5,879,158,535	5,332,888,092	671,770,402	6,004,658,494	-125,499,959	5,879,158,535
1991	4,574,236,353	357,945,149	0	4,932,181,502	4,040,195,018	472,500,000	4,512,695,018	419,486,484	4,932,181,502

Source: Cooperative Wholesale Establishment Annual Reports

TABLE 3

SUMMARY OF CURRENT ASSETS, CURRENT LIABILITIES, AND FIXED ASSETS

Current Assets

	Cash	Accounts Receivable	Inventories	Short-term Investment	Total
1983	36,730,173	135,383,842	425,508,332	0	597,622,347
1984	16,455,022	196,472,145	890,679,739	0	1,103,606,906
1985	31,229,574	285,911,319	622,765,168	0	939,906,061
1986	24,775,573	212,590,371	505,044,006	0	742,409,950
1987	41,505,659	351,665,328	380,915,298	0	774,086,285
1988	150,719,048	453,521,357	720,852,061	0	1,325,092,466
1989	554,351,920	1,832,933,558	3,621,929,017	0	6,009,214,495
1990	333,203,495	1,568,806,331	3,385,413,512	0	5,287,423,338
1991	575,789,249	1,456,952,019	2,349,048,685	192,446,400	4,574,236,353

Current Liabilities

	Accounts Payable	Short-term Loans	Overdraft	Taxation Treasury	Total
1983	130,366,357	320,601,846	16,575,747	84,082,616	551,626,566
1984	183,852,780	843,920,033	33,446,296	81,742,752	1,142,961,861
1985	226,652,254	942,923,006	23,120,229	20,500,000	1,213,195,489
1986	181,918,422	625,709,077	37,532,651	10,500,000	855,660,150
1987	125,191,725	779,278,855	12,917,388	0	917,387,968
1988	243,336,889	1,359,188,595	46,641,270	0	1,649,166,754
1989	4,105,258,882	2,230,789,059	177,364,100	0	6,513,412,041
1990	2,348,604,060	2,906,690,516	77,593,516	0	5,332,888,092
1991	1,967,762,281	1,974,229,845	98,202,892	0	4,040,195,018

Fixed Assets

	Investment	Land, Building & Equipment	Loans	Total
1983	220,019,090	89,060,685	6,555,880	315,635,655
1984	252,862,630	114,681,175	26,305,880	393,849,685
1985	322,504,360	135,195,939	5,955,880	463,656,179
1986	352,851,990	170,777,229	12,680,880	536,310,099
1987	317,928,530	181,867,492	12,555,880	512,351,902
1988	329,831,130	203,410,104	5,555,880	538,797,114
1989	329,831,130	224,876,211	5,555,880	560,263,221
1990	330,901,130	235,956,661	5,555,880	572,413,671
1991	115,486,130	236,903,139	5,555,880	357,945,149

Source: Cooperative Wholesale Establishment Annual Reports

TABLE 4

FINANCIAL RATIOS FOR CWE TOTAL OPERATIONS

Activity Ratios

	<u>Inventory Turnover</u>	<u>Average Collection Period</u>	<u>Fixed Asset Turnover</u>	<u>Total Asset Turnover</u>
1983	3.7	31	5.0	1.7
1984	2.4	33	5.5	1.4
1985	3.5	47	4.8	1.6
1986	3.5	44	3.3	1.4
1987	6.6	50	5.0	1.9
1988	5.6	40	7.6	2.2
1989	2.2	81	14.1	1.2
1990	3.9	43	22.9	2.2
1991	5.2	43	34.5	2.5
Target	6.0	30	25.0	5.0

Cost-structure Ratios

	<u>Gross Profit Margin</u>	<u>Sales Expense Ratio</u>	<u>G&A Expense Ratio</u>	<u>Interest Ratio</u>
1983	0.14	0.05	0.04	0.03
1984	0.15	0.05	0.04	0.04
1985	0.07	0.05	0.04	0.06
1986	0.14	0.07	0.06	0.08
1987	0.13	0.05	0.05	0.05
1988	0.14	0.04	0.04	0.04
1989	0.09	0.03	0.02	0.03
1990	0.06	0.02	0.01	0.03
1991	0.11	0.03	0.01	0.03
Target	0.25	0.05	0.02	0.03

Profitability Ratios

	<u>ROI</u>	<u>Managerial ROA</u>	<u>ROS</u>
1983	12.6	3.0	1.8
1984	22.0	3.6	2.6
1985	-116.5	-10.3	-6.8
1986	- 99.9	-4.9	-3.7
1987	3.4	0.2	0.1
1988	70.5	5.8	2.7
1989	-272.3	-1.7	-1.4
1990	N/A	-0.0	-1.5
1991	135.5	0.1	4.6
Target	22.0	35.0	15.0

TABLE 4 (CONT)

Tests of Liquidity

	Current Ratio	Acid Test
1983	1.08	0.31
1984	0.97	0.19
1985	0.77	0.26
1986	0.87	0.28
1987	0.84	0.43
1988	0.80	0.37
1989	0.92	0.37
1990	0.99	0.36
1991	1.13	0.55
Target	2.00	1.00

Tests of Solvency

	Financial Ratio	Debt Leverage Ratio	Debt Equity Ratio	Cover Ratio
1983	1.31	0.77	-0.52	0.56
1984	1.20	0.84	-0.16	0.67
1985	1.10	0.91	-0.09	-1.05
1986	1.05	0.95	-0.50	-0.47
1987	1.08	0.93	-0.38	0.02
1988	1.09	0.92	-0.06	0.76
1989	1.01	0.99	-0.01	-0.43
1990	0.98	1.02	-0.12	-0.54
1991	1.09	0.91	-0.13	1.39
Target	1.50	0.67	0.75	2.00

Equity Relationships

	Current Liabilities	Long-term Liabilities	Net Worth
1983	0.58	0.18	0.23
1984	0.75	0.09	0.16
1985	0.84	0.07	0.09
1986	0.65	0.30	0.05
1987	0.69	0.24	0.07
1988	0.87	0.05	0.08
1989	0.99	0.01	0.01
1990	0.91	0.11	-0.02
1991	0.82	0.10	0.09
Target	0.27	0.40	0.33

Source: Calculated from Information in Cooperative Wholesale Establishment Annual Reports

TABLE 5

COOPERATIVE WHOLESALE ESTABLISHMENT STAFF NUMBERS

<u>Year</u>	<u>Number of Employees</u>
1983	3691
1984	3803
1985	3890
1986	3835
1987	3758
1988	4086
1989	4071
1990	3973
1991	3451

TABLE 6

COOPERATIVE WHOLESALE ESTABLISHMENT STAFFING PATTERN, 1991

<u>Sector</u>	<u>Percentage</u>
Marketing	47
Administrative	21
Transport	11
Engineering	4
Imports	3
Finance	7
Other Service	7

APPENDIX X

COOPERATIVE WHOLESALE ESTABLISHMENT WHOLESALE AND RETAIL OPERATIONS

TABLE 1

WHOLESALE AND RETAIL ACCOUNT

	1991	1990	1989	1988	1987	1986	1985	1984	1983
Sales	5,580,394,201	4,624,937,457	4,668,898,528	3,900,269,365	2,391,572,252	1,674,208,665	2,082,195,482	1,992,683,235	1,472,844,602
Turnover Tax	(57,581,778)	(47,720,267)	(45,951,945)	(38,656,263)	(24,557,494)	(16,784,510)	(21,087,471)	(21,099,175)	(57,284,544)
Withholding Tax		(32,853,069)	(22,535,515)						
Net Sales	5,522,812,423	4,544,364,121	4,600,411,068	3,861,613,10	2,367,014,758	1,657,424,155	2,061,108,011	1,971,584,060	1,415,560,058
Opening Stock	770,261,061	1,605,771,994	579,245,244	379,060,585	488,992,778	593,340,537	810,079,877	368,808,054	227,719,620
Purchases/Imports	2,406,482,946	1,772,166,746	2,964,720,292	1,925,361,684	1,218,106,509	1,067,941,208	1,279,267,819	1,487,681,517	987,325,223
Purchases/Local	1,004,995,218	512,985,981	400,675,340	341,996,709					
Duty & Dues	1,015,666,538	879,412,648	1,478,054,302	1,084,830,632	634,843,562	157,974,564	343,342,351	519,100,125	311,244,689
Handling/Trans	10,924,117	8,371,771	17,282,387	12,364,920	8,540,206	4,280,292	4,142,576	7,803,313	3,927,428
Landing Charges	2,858,941	4,186,654	22,497,797	12,739,653	6,602,608	1,365,578	2,142,857	4,684,724	1,621,403
Stamp Duty	55,602,214	43,336,459	75,735,513	37,721,629					
Freight & Other	222,008,600	159,038,091	200,752,218	177,030,029	97,774,494	101,486,714	106,425,567	124,096,740	37,819,182
Ending Stock	(814,640,981)	(770,261,061)	(1,605,771,994)	(579,250,566)	(377,889,480)	(500,302,303)	(603,080,629)	(810,510,382)	(362,020,569)
Stock Variance	(124,699,794)	(233,631,595)	(188,849,457)						
Condemned and Price Reduced Stock	(144,443,617)	(81,930,707)	(56,192,532)	(79,537,189)	(32,726,297)	(13,134,213)	(32,334,161)	(7,040,199)	(6,365,626)
Cost of Goods Sold	4,405,015,243	3,899,446,981	3,888,149,110	3,312,318,086	2,044,244,380	1,417,952,377	1,909,986,257	1,694,623,895	1,201,270,350
Gross Operating Margin	1,117,797,180	644,917,140	712,261,958	549,295,016	322,770,378	239,471,778	151,121,754	276,960,165	214,239,708
Selling Expenses	343,624,892	258,306,148	219,300,995	170,880,218	127,851,503	116,989,837	118,953,518	108,575,883	69,410,230
Net Op Margin	774,172,288	386,610,992	492,960,963	378,414,798	194,918,875	122,481,941	32,168,236	168,284,282	144,379,478
Overhead	126,207,331	113,389,345	144,197,108	179,384,120	118,300,043	97,326,180	92,388,289	108,675,883	73,610,136
Net Op Profit	647,964,957	273,221,647	348,763,855	199,030,678	76,618,832	25,155,761	(60,220,053)	59,608,399	71,269,342
Inventory Turnover	10.6	4.7	11.2	16.8	9.1	5.4	4.9	10.5	12.1
Goods Margin %	43.9	38.3	54.5	48.5	45.2	30.4	29.5	47.3	40.2
Goods Markup %	178.3	162.0	219.7	194.3	182.6	143.8	141.8	189.8	167.2

Source: Annual Reports, Cooperative Wholesale Establishment

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TABLE 2

CWE WHOLESALE AND RETAIL ACCOUNT WITH INVENTORY ADJUSTMENTS

	1991	1990	1989	1988	1987	1986	1985	1984	1983
Sales	5,580,394,201	4,624,937,457	4,668,898,528	3,900,269,365	2,391,572,252	1,674,208,665	2,082,195,482	1,992,683,235	1,472,844,602
Turnover Tax	(57,581,778)	(47,720,267)	(45,951,945)	(38,656,263)	(24,557,494)	(16,784,510)	(21,087,471)	(21,099,175)	(57,284,544)
Withholding Tax		(32,853,069)	(22,535,515)						
Net Sales	5,522,812,423	4,544,364,121	4,600,411,068	3,861,613,102	2,367,014,758	1,657,424,155	2,061,108,011	1,971,584,060	1,415,560,058
Opening Stock	875,554,928	1,663,853,972	658,787,755	410,615,777	513,436,516	635,414,790	817,550,581	368,387,195	227,719,620
Purchases/Imports	2,406,482,946	1,772,166,746	2,964,720,292	1,925,361,684	1,218,106,509	1,067,941,208	1,279,267,819	1,487,681,517	987,325,223
Purchases/Local	1,004,995,218	512,985,981	400,675,340	341,996,709					
Duty & Dues	1,015,666,538	879,412,648	1,478,054,302	1,084,830,632	634,843,562	157,974,564	343,342,351	519,100,125	311,244,689
Handling/Trans	10,924,117	8,371,771	17,282,387	12,364,920	8,540,206	4,280,292	4,142,576	7,803,316	3,927,428
Landing Charges	2,858,941	4,186,654	22,497,797	12,739,653	6,602,608	1,365,578	2,142,857	4,684,724	1,621,403
Stamp Duty	55,602,214	43,336,459	75,735,513	37,721,629					
Freight & Other	222,008,600	159,038,091	200,752,218	177,030,029	97,774,494	101,486,714	106,425,567	124,096,740	37,819,182
Ending Stock	(614,640,981)	(770,261,061)	(1,605,771,994)	(579,250,566)	(377,889,480)	(500,302,303)	(603,080,629)	(810,510,382)	(362,020,569)
Stock Variance	(12,489,979)	(23,363,160)	(1,889,446)						
Condemned and Price									
Reduced Stock	(144,443,617)	(81,930,707)	(56,192,532)	(79,537,189)	(32,726,297)	(13,134,213)	(32,334,161)	(7,040,199)	(6,366,626)
Cost of Goods Sold	4,622,518,925	4,167,797,394	4,154,651,632	3,343,873,278	2,068,688,118	1,455,026,630	1,917,456,961	1,694,203,036	1,201,270,350
Gross Operating									
Margin	900,293,498	376,566,727	445,759,436	517,739,824	298,326,640	202,397,525	143,651,050	277,381,024	214,289,708
Selling Expenses	343,624,892	258,306,148	219,300,995	170,880,218	127,851,503	116,989,837	118,953,518	108,675,883	69,410,230
Net Op Margin	556,668,606	118,260,579	226,458,441	346,859,606	170,475,137	85,407,688	24,697,532	168,705,141	144,879,478
Overhead	126,207,331	113,389,345	144,197,108	179,384,120	118,300,043	97,326,180	92,388,289	108,675,883	73,610,136
Net Op Profit	430,461,275	4,871,234	82,261,333	167,475,486	52,175,094	(11,918,492)	(67,690,757)	60,029,258	71,269,342

Source: Annual Reports, Cooperative Wholesale Establishment

Adjustments: Inventory adjustments made to reflect 90% write-off of stock variances by reducing the ending inventory stock variance to 10% of stated annual report balance. This balance was then carried forward with the ending inventory balance. The condemned and price reduced stock ending inventory balance was carried forward with the ending inventory balance.

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APPENDIX XI

CWE RETAIL OPERATIONS SAMPLE

TABLE 1

CWE RETAIL STORE SAMPLE

	Retail Store Number											
	120	132	181	182	200	201	258	288	292	293	313	314
1987												
Sales	3,421,816	26,199,809	8,430,867	4,674,571	15,626,856	201,350	9,052,245	5,240,481	11,411,072	2,261,397	7,103,142	4,899,373
Gross Margin	195,162	(796,945)	(324,236)	(61,307)	(429,219)	(245,590)	(334,155)	1,830,340	3,246,274	271,771	(6,726,312)	166,485
Net Op Margin	12,352	(1,428,092)	(619,717)	(540,069)	(4,635,792)	(363,908)	(968,100)	1,676,045	2,966,217	242,371	(7,070,679)	(78,091)
1988												
Sales	4,016,213	4,810,003	15,567,848	6,698,590	22,074,970	7,302,822	10,386,757	4,542,113	15,326,186	8,262,041	20,576,257	8,948,593
Gross Margin	(177,883)	18,895	(672,655)	(813,137)	(6,518)	(259,487)	223,971	4,132,643	(409,714)	1,133,012	(18,990,831)	546,676
Net Op Margin	(381,533)	(379,032)	(1,010,787)	(1,121,889)	(388,999)	(610,591)	(413,402)	3,920,982	(748,900)	940,067	(19,369,671)	223,739
1989												
Sales	4,321,927	6,471,959	13,588,894	6,006,051	20,430,236	14,618,219	11,065,970	2,842,147	5,084,448	7,618,457	20,415,904	20,155,548
Gross Margin	(797,911)	(1,643,307)	(2,350,593)	(446,979)	(2,390,953)	(1,870,914)	(5,876,363)	(1,355,773)	(11,887,630)	(5,852,676)	(18,996,125)	10,187,454
Net Op Margin	(1,901,782)	(2,172,413)	(2,722,516)	(759,134)	(2,943,260)	(2,443,461)	(6,729,992)	(1,634,033)	(12,250,560)	(6,148,288)	(19,554,087)	9,768,706
1990												
Sales	4,219,649	14,376,935	9,239,429	8,607,904	19,095,832	21,146,280	21,895,612	4,251,963	14,088,201	17,558,875	22,317,001	12,538,791
Gross Margin	(1,022,735)	2,148,077	(1,226,170)	(1,451,524)	(3,430,402)	(2,381,076)	(23,383,552)	42,009	(3,717,031)	(2,937,883)	(6,495,799)	4,005,745
Net Op Margin	(1,299,154)	1,464,172	(1,707,692)	(1,809,148)	(3,991,024)	(3,047,760)	(24,193,633)	(258,461)	(4,179,524)	(3,247,019)	(7,091,663)	3,557,857
1991												
Sales	4,914,678	14,286,759	17,189,850	10,759,950	38,321,055	30,107,240	39,718,399	5,460,199	24,384,785	28,865,629	34,886,063	10,982,547
Gross Margin	526,030	441,741	813,749	(2,593,439)	3,577,850	2,295,483	2,511,978	169,307	3,350,870	1,791,050	(27,247,532)	1,685,711
Net Op Margin	259,713	(264,830)	223,673	(2,680,757)	2,867,277	1,476,727	1,476,005	(177,781)	2,780,321	1,392,879	(28,039,559)	1,226,218

TABLE 1 (CONT)

	Retail Store Number								Average
	330	401	402	404	381	333	268	222	
1987									
Sales	12,791,541	2,281,040	5,911,173	3,179,319	4,649,605	21,884,816	1,652,727	5,324,395	7,809,880
Gross Margin	5,542,659	1,562,563	1,732,894	(1,204,466)	1,530,776	9,271,587	79,264	321,578	781,456
Net Op Margin	5,230,956	(1,753,391)	1,473,989	(1,393,250)	1,291,869	8,945,451	11,382	126,481.0	156,301
1988									
Sales	11,326,389	6,578,135	18,821,752	7,331,015	3,466,668	21,705,245	2,575,614	4,664,714	10,249,096
Gross Margin	(288,956)	1,049,606	19,733	221,653	(118,000)	74,673	(418,535)	(867,022)	(780,094)
Net Op Margin	(607,455)	804,750	(352,567)	(4,512)	(398,786)	(321,725)	(595,192)	(1,157,216)	(1,098,636)
1989									
Sales	9,029,488	8,003,528	40,461,165	13,910,646	8,808,863	19,894,537	1,395,772	4,801,919	11,946,284
Gross Margin	(4,523,899)	2,714,017	17,632,649	5,124,576	3,698,758	(5,031,365)	(2,021,418)	(536,774)	(1,311,261)
Net Op Margin	(4,579,932)	2,390,078	17,134,358	4,836,282	3,329,210	(5,547,330)	(2,244,733)	(872,023)	(1,752,246)
1990									
Sales	7,325,510	3,324,277	18,197,066	4,279,002	4,791,619	21,413,550	3,094,283	4,799,087	11,828,043
Gross Margin	(2,391,248)	(964,855)	(2,263,592)	(4,481,213)	(1,653,642)	(2,015,342)	(624,784)	(1,854,488)	(2,804,975)
Net Op Margin	(2,912,229)	(1,267,064)	(2,863,691)	(4,779,867)	(2,112,569)	(2,556,515)	(841,512)	(2,301,901)	(3,271,520)
1991									
Sales	13,568,913	7,389,098	31,513,782	8,100,710	6,228,133	37,482,581	5,676,591	12,100,484	19,096,872
Gross Margin	(42,707)	1,133,203	(24,021,546)	(1,377,118)	106,767	4,459,680	227,891	863,523	(1,566,375)
Net Op Margin	(570,418)	755,291	(24,770,625)	(1,696,897)	(433,064)	3,827,226	(42,448)	377,555	(2,100,675)

Source: LAMSCO

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ANALYSIS OF RETAIL SAMPLE DATA

	Retail Store Number											
	120	132	181	182	200	201	258	288	292	293	313	314
1987												
Gross Operating Margin %	5.7	-3.0	-3.8	-1.3	-2.7	-122.0	-3.7	34.9	28.4	12.0	-94.7	3.4
Net Operating Margin %	0.4	-5.5	-7.4	-11.6	-29.7	-180.7	-10.7	32.0	26.0	10.7	-99.5	-1.6
1988												
Gross Operating Margin %	-4.4	0.4	-4.3	-12.1	-0.0	-3.6	2.2	91.0	-2.7	13.7	-92.3	6.1
Net Operating Margin %	-9.5	-7.9	-6.5	-16.7	-1.8	-8.4	-4.0	86.3	-4.9	11.4	-94.1	2.5
1989												
Gross Operating Margin %	-18.5	-25.4	-17.3	-7.4	-11.7	-12.8	-53.1	-47.7	-233.8	-76.8	-93.0	50.5
Net Operating Margin %	-44.0	-33.6	-20.0	-12.6	-14.4	-16.7	-60.8	-57.5	-240.9	-80.7	-95.8	48.5
1990												
Gross Operating Margin %	-24.2	14.9	-13.3	-16.9	-18.0	-11.3	-106.8	1.0	-26.4	-16.7	-29.1	31.9
Net Operating Margin %	-30.8	10.2	-18.5	-21.0	-20.9	-14.4	-110.5	-6.1	-29.7	-18.5	-31.8	28.4
1991												
Gross Operating Margin %	10.7	3.1	4.7	-24.1	9.3	7.6	6.3	3.1	13.7	6.2	-78.1	15.3
Net Operating Margin %	5.3	-1.9	1.3	-24.9	7.5	4.9	3.7	-3.3	11.4	4.8	-80.4	11.2
Average												
Gross Operating Margin %	-6.1	0.3	-5.9	-14.6	-2.3	-3.4	-29.2	21.6	-13.4	-8.7	-74.5	28.8
Net Operating Margin %	-15.8	-4.2	-9.1	-18.8	-7.9	-6.8	-33.5	15.8	-16.3	-10.6	-77.0	25.6

	Retail Store Number								
	330	401	402	404	381	333	268	222	Average
1987									
Gross Operating Margin %	43.3	68.5	29.3	-37.9	32.9	42.4	4.8	6.0	10.0
Net Operating Margin %	40.9	-76.9	24.9	-43.8	27.8	40.9	0.7	2.4	2.0
1988									
Gross Operating Margin %	-2.6	16.0	0.1	3.0	-3.4	0.3	-16.2	-18.6	-7.6
Net Operating Margin %	-5.4	12.2	-1.9	-0.1	-11.5	-1.5	-23.1	-24.8	-10.7
1989									
Gross Operating Margin %	-50.1	33.9	43.6	36.8	42.0	-25.3	-144.8	-11.2	-11.0
Net Operating Margin %	-50.7	29.9	42.3	34.8	37.8	-27.9	-160.8	-18.2	-14.7
1990									
Gross Operating Margin %	-32.6	-29.0	-12.4	-104.7	-34.5	-9.4	-20.2	-38.6	-23.7
Net Operating Margin %	-39.8	-38.1	-15.7	-111.7	-44.1	-11.9	-27.2	-48.0	-27.7
1991									
Gross Operating Margin %	-0.3	15.3	-76.2	-17.0	1.7	11.9	4.0	7.1	-8.2
Net Operating Margin %	-4.2	10.2	-78.6	-20.9	-7.0	10.2	-0.7	3.1	-11.0
Average									
Gross Operating Margin %	-3.2	19.9	-6.0	-4.7	12.8	5.5	-19.2	-6.5	
Net Operating Margin %	-6.4	3.4	-8.2	-8.3	6.0	3.6	-25.8	-12.1	

Source: Table 1

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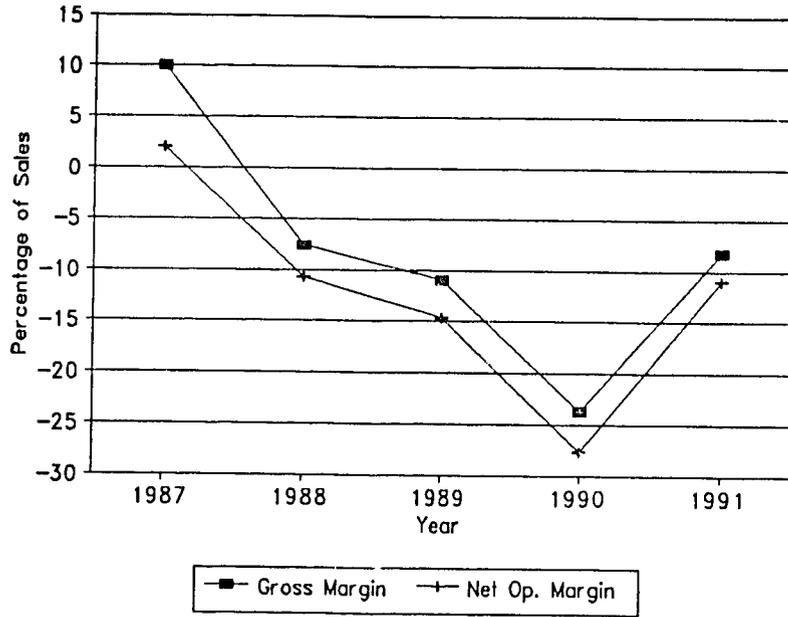


Figure 1. Average of Gross Operating Margin and Net Operating Profit by Year for All Sample Stores.

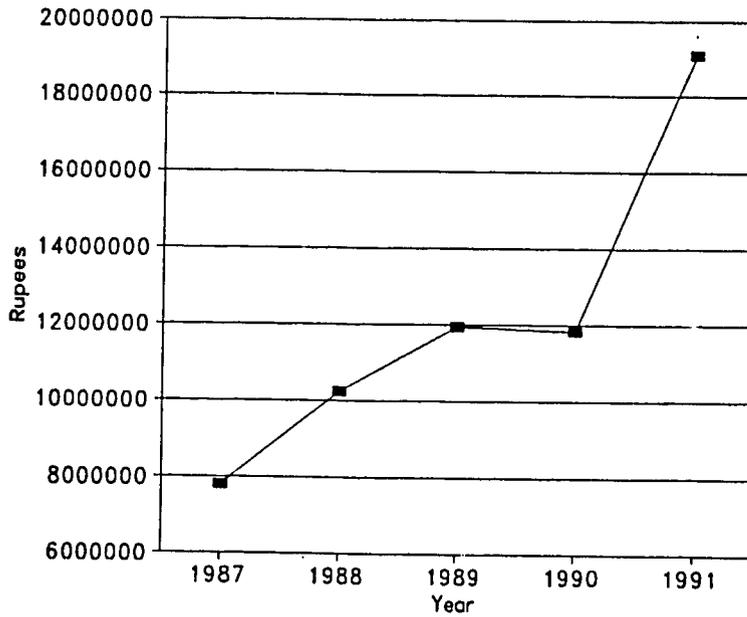


Figure 2. Sales Average for All Sample Stores by Year.

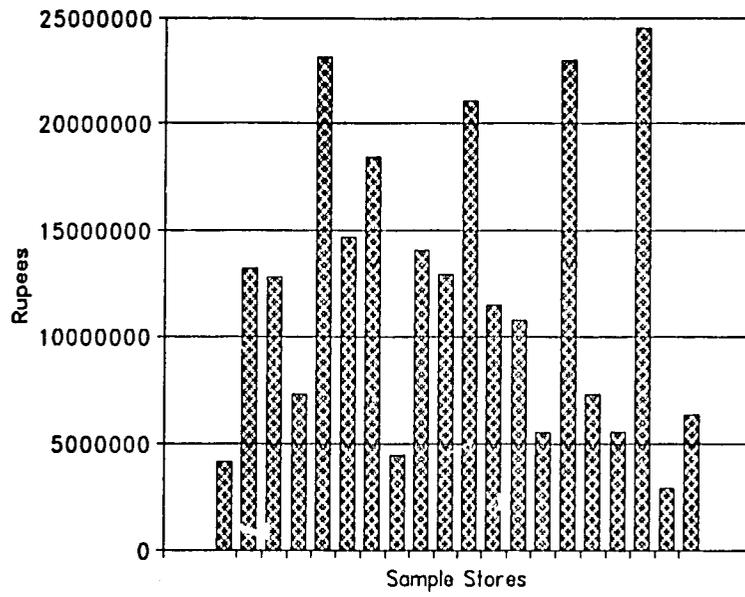


Figure 3. Average of Sales for Each Sample Store.

APPENDIX XII

CWE WHOLESALE OPERATIONS COMMODITY SAMPLES

TABLE 1

CWE WHOLESALE SAMPLES
(Millions Rs)

	1987	1988	1989	1990	1991
Sugar					
Net Sales	600.252	1,159.537	1,733.856	1,129.808	332.308
Cost of Goods Sold	596.207	1,223.372	2,053.507	1,051.076	390.324
Gross Operating Margin	4.045	(63.835)	(319.651)	78.732	(58.016)
Sales Expense	24.315	35.058	44.998	50.218	65.298
Net Operating Margin	(20.270)	(98.893)	(364.649)	28.514	(123.314)
Overhead	11.780	8.996	8.506	7.236	7.910
Net Operating Profit	(32.050)	(107.889)	(373.155)	21.278	(131.224)
Big Onions					
Net Sales	467.493	437.452	306.310	606.634	1098.506
Cost of Goods Sold	380.937	406.914	288.298	459.068	806.292
Gross Operating Margin	86.556	30.538	18.012	147.566	292.214
Sales Expense	13.894	20.033	25.713	28.696	37.313
Net Operating Margin	72.662	10.505	(7.701)	118.870	254.901
Overhead	6.616	5.140	4.860	4.134	4.520
Net Operating Profit	66.046	5.365	(12.561)	114.736	250.381
Red Lentils					
Net Sales	490.158	1,353.660	1,537.910	1,227.294	2,062.896
Cost of Goods Sold	458.651	1,162.595	1,150.211	1,272.075	365.499
Gross Operating Margin	31.507	191.065	387.699	(44.781)	1,697.397
Sales Expense	31.282	45.075	57.855	64.566	83.955
Net Operating Margin	0.225	145.990	329.844	(109.347)	1,613.442
Overhead	14.886	11.556	10.936	9.302	10.170
Net Operating Profit	(14.661)	134.434	318.908	(118.649)	1,603.272
Chilies					
Net Sales	165.153	461.459	277.095	219.752	852.357
Cost of Goods Sold	149.880	382.545	219.410	336.945	591.77
Gross Operating Margin	15.273	78.914	57.685	(117.193)	260.587
Sales Expense	9.552	13.773	17.678	19.728	25.653
Net Operating Margin	5.721	65.141	40.007	(136.921)	234.934
Overhead	4.548	3.534	3.341	2.842	3.117
Net Operating Profits	1.173	61.607	36.666	(139.763)	231.817

TABLE 1 (CONT)

	1987	1988	1989	1990	1991
Dry Fish					
Net Sales	46.653	36.440	34.199	21.237	30.006
Cost of Goods Sold	38.277	42.817	37.587	18.500	23.826
Gross Operating Margin	8.376	(6.377)	(3.388)	2.737	6.180
Sales Expense	0.868	1.252	1.607	1.793	2.332
Net Operating Margin	7.508	(7.629)	(4.995)	0.944	3.848
Overhead	0.413	0.321	0.303	0.258	0.282
Net Operating Profit	7.095	(7.950)	(5.298)	0.686	3.566
Canned Fish					
Net Sales	25.486	18.318	18.719	7.643	45.115
Cost of Goods Sold	15.801	17.176	13.577	17.046	30.343
Gross Operating Margin	9.685	1.142	5.142	(9.403)	14.772
Sales Expense	0.868	1.252	1.607	1.793	2.332
Net Operating Margin	8.817	(0.110)	3.535	(11.196)	12.440
Overhead	0.413	0.321	0.303	0.258	0.282
Net Operating Profit	8.404	(0.431)	3.232	(11.454)	12.158
Lakspray					
Net Sales	31.743	24.456	35.767	59.752	76.102
Cost of Goods Sold	27.641	31.481	32.030	54.212	67.664
Gross Operating Margin	4.102	(7.025)	3.737	5.540	8.438
Sales Expense	0.868	1.252	1.607	1.793	2.332
Net Operating Margin	3.234	(8.277)	2.130	3.747	6.106
Overhead	0.413	0.321	0.303	0.258	0.282
Net Operating Profit	2.821	(8.598)	1.827	3.489	5.824
Textiles					
Net Sales	36.752	39.555	51.744	147.294	113.230
Cost of Goods Sold	26.885	34.078	43.302	119.023	101.200
Gross Operating Margin	9.867	5.477	8.442	28.271	12.030
Sales Expense	1.736	2.504	3.214	3.587	4.664
Net Operating Margin	8.131	2.973	5.228	24.684	7.366
Overhead	0.827	0.642	0.607	0.516	0.565
Net Operating Profit	7.304	2.331	4.621	24.168	6.801
Stationary					
Net Sales	23.296	22.956	22.604	39.203	58.320
Cost of Goods Sold	22.966	20.535	24.606	28.667	51.098
Gross Operating Margin	0.330	2.421	(2.002)	10.536	7.222
Sales Expense	0.868	1.252	1.607	1.793	2.332
Net Operating Margin	(0.538)	1.169	(3.609)	8.743	4.890
Overhead	0.413	0.321	0.303	0.258	0.282
Net Operating Profit	(0.951)	0.848	(3.912)	8.485	4.608
Hardware/Ceramics					
Net Sales	32.571	54.342	53.822	64.577	60.979
Cost of Goods Sold	16.649	38.542	39.744	59.143	44.409
Gross Operating Margin	15.922	15.800	14.078	5.434	16.570
Sales Expense	0.868	1.252	1.607	1.793	2.332
Net Operating Margin	15.054	14.548	12.471	3.641	14.238
Overhead	0.413	0.321	0.303	0.258	0.282
Net Operating Profit	14.641	14.227	12.168	3.383	13.956

TABLE 1 (CONT)

	1987	1988	1989	1990	1991
Electrical					
Net Sales	13.646	17.418	22.566	30.224	27.722
Cost of Goods Sold	8.829	11.407	18.575	23.630	24.948
Gross Operating Margin	4.817	6.011	3.991	6.594	2.774
Sales Expense	0.868	1.252	1.607	1.793	2.332
Net Operating Margin	3.949	4.759	2.384	4.801	0.442
Overhead	0.413	0.321	0.303	0.258	0.282
Net Operating Profit	3.536	4.438	2.081	4.543	0.160
Sports Equipment					
Net Sales	12.500	13.300	19.900	19.900	27.900
Cost of Goods sold	10.000	10.500	16.600	17.400	22.700
Gross Operating Margin	2.500	2.800	3.300	2.500	5.200
Sales Expense	0.868	1.252	1.607	1.793	2.332
Net Operating Margin	1.632	1.548	1.693	0.707	2.868
Overhead	0.412	0.321	0.303	0.258	0.282
Net Operating Profit	1.219	1.227	1.390	0.449	2.586

Source: LAMSCO

TABLE 2
ANALYSIS OF CWE WHOLESALE SAMPLE

	1987	1988	1989	1990	1991	Average
Food Products						
Sugar						
Gross Operating Margin %	0.7	-5.5	-18.4	7.0	-17.5	-7.2
Net Operating Margin %	-3.4	-8.5	-21.0	2.5	-37.1	-11.7
Net Operating Profit %	-5.3	-9.3	-21.5	1.9	-39.5	-12.6
Big Onions						
Gross Operating Margin %	18.5	7.0	5.9	24.3	26.6	19.7
Net Operating Margin %	15.5	2.4	-2.5	19.6	23.2	15.4
Net Operating Profit %	14.1	1.2	-4.1	18.9	22.8	14.5
Red Lentils						
Gross Operating Margin %	6.4	14.1	25.2	-3.6	82.3	33.9
Net Operating Margin %	0.0	10.8	21.4	-8.9	78.2	29.7
Net Operating Profit %	-3.0	9.9	20.7	-9.7	77.7	28.8
Chillies						
Gross Operating Margin %	9.2	17.1	20.8	-53.3	30.6	14.9
Net Operating Margin %	3.5	14.1	14.4	-62.3	27.6	10.6
Net Operating Profit %	0.7	13.4	13.2	-63.6	27.2	9.7
Dry Fish						
Gross Operating Margin %	18.0	-17.5	-9.9	12.9	20.6	4.5
Net Operating Margin %	16.1	-20.9	-14.6	4.4	12.8	-0.2
Net Operating Profit %	15.2	-21.8	-15.5	3.2	11.9	-1.1
Canned Fish						
Gross Operating Margin %	38.0	6.2	27.5	-123.0	32.7	18.5
Net Operating Margin %	34.6	-0.6	18.9	-146.5	27.6	11.7
Net Operating Profit %	33.0	-2.4	17.3	-149.9	26.9	10.3
Lakspray						
Gross Operating Margin %	12.9	-28.7	10.4	9.3	11.1	6.5
Net Operating Margin %	10.2	-33.8	6.0	6.3	8.0	3.0
Net Operating Profit %	8.9	-35.2	5.1	5.8	7.7	2.4
Total Food Products						
Gross Operating Margin %	8.7	6.4	3.8	1.9	49.4	16.5
Net Operating Margin %	4.3	3.1	-0.0	-3.2	44.5	12.2
Net Operating Profit %	2.1	2.2	-0.8	-4.0	43.9	11.3
Total Food Products Without Sugar						
Gross Operating Margin %	12.7	12.4	21.2	-0.7	54.7	26.3
Net Operating Margin %	6.0	7.3	14.4	-8.6	49.5	20.2
Net Operating Profit %	1.9	5.6	12.7	-10.1	48.6	18.6
Industrial Products						
Textiles						
Gross Operating Margin %	26.8	13.8	16.3	19.2	10.6	16.5
Net Operating Margin %	22.1	7.5	10.1	16.8	6.5	12.5
Net Operating Profit %	19.9	5.9	8.9	16.4	6.0	11.6

TABLE 2 (CONT)

	1987	1988	1989	1990	1991	Average
Stationary						
Gross Operating Margin %	1.4	10.5	-8.9	26.9	12.4	11.1
Net Operating Margin %	-2.3	5.1	-16.0	22.3	8.4	6.4
Net Operating Profit %	-4.1	3.7	-17.3	21.6	7.9	5.5
Hardware/Ceramics						
Gross Operating Margin %	48.9	29.1	26.2	8.4	27.2	25.5
Net Operating Margin %	46.2	26.8	23.2	5.6	23.3	22.5
Net Operating Profit %	45.0	26.2	22.6	5.2	22.9	21.9
Electrical						
Gross Operating Margin %	35.3	34.5	17.7	21.8	10.0	21.7
Net Operating Margin %	28.9	27.3	10.6	15.9	1.6	14.6
Net Operating Profit %	25.9	25.5	9.2	15.0	0.6	13.2
Sports Equipment						
Gross Operating Margin %	20.0	21.1	16.6	12.6	18.6	17.4
Net Operating Margin %	13.1	11.6	8.5	3.6	10.3	9.0
Net Operating Profit %	9.8	9.2	7.0	2.3	9.3	7.3
Total Industrial Products						
Gross Operating Margin %	28.2	22.0	16.3	17.7	15.2	18.6
Net Operating Margin %	23.8	16.9	10.6	14.1	10.3	14.0
Net Operating Profit %	21.7	15.6	9.6	13.6	9.8	13.1
Total All Products						
Gross Operating Margin %	9.9	7.1	4.3	3.3	47.3	16.7
Net Operating Margin %	5.5	3.6	0.4	-1.8	42.5	12.3
Net Operating Profit %	3.3	2.7	-0.3	-2.5	41.9	11.4
Total All Product less Sugar						
Gross Operating Margin %	14.0	12.9	20.9	1.5	52.2	25.7
Net Operating Margin %	7.8	7.9	14.1	-5.8	46.9	19.7
Net Operating Profit %	3.6	6.2	12.5	-7.1	46.1	18.2

Source: Table 1

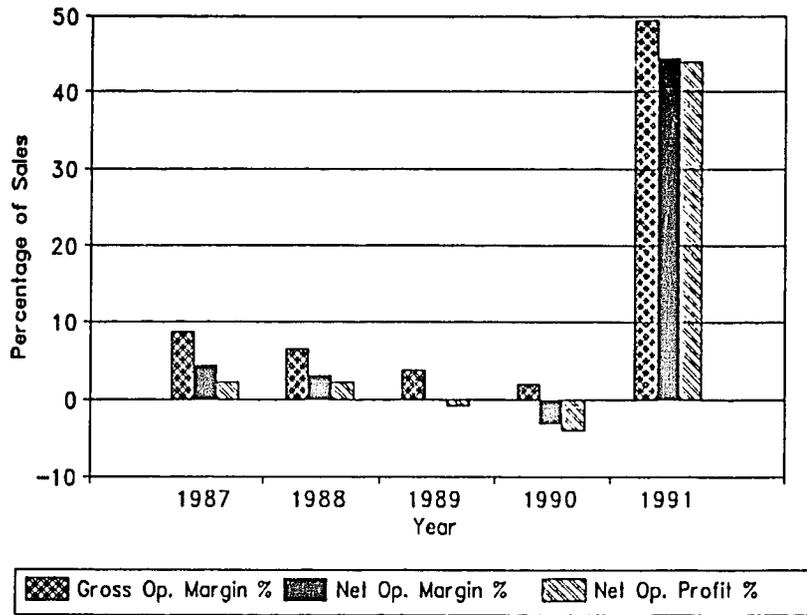


Figure 1. Wholesale Commodity Sample, Total Food Products.

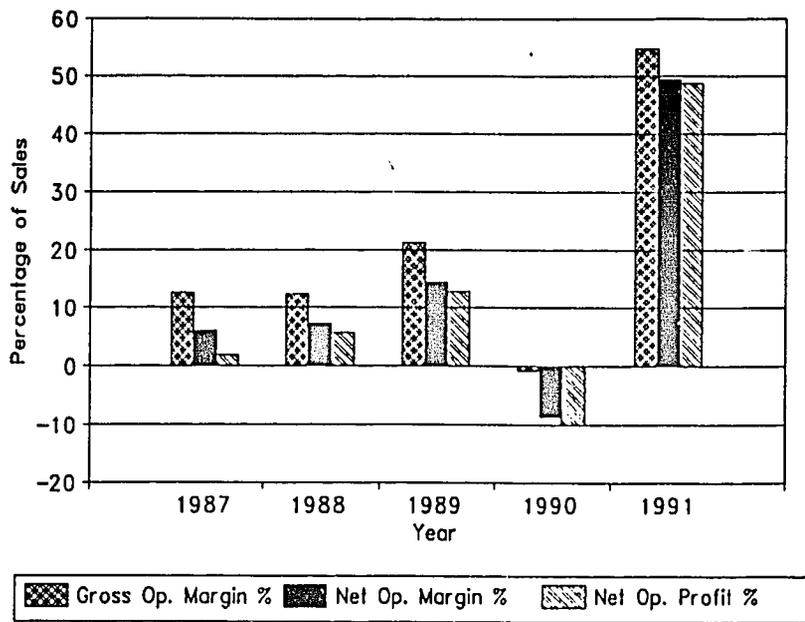


Figure 2. Wholesale Commodity Sample, Total Food Products Less Sugar.

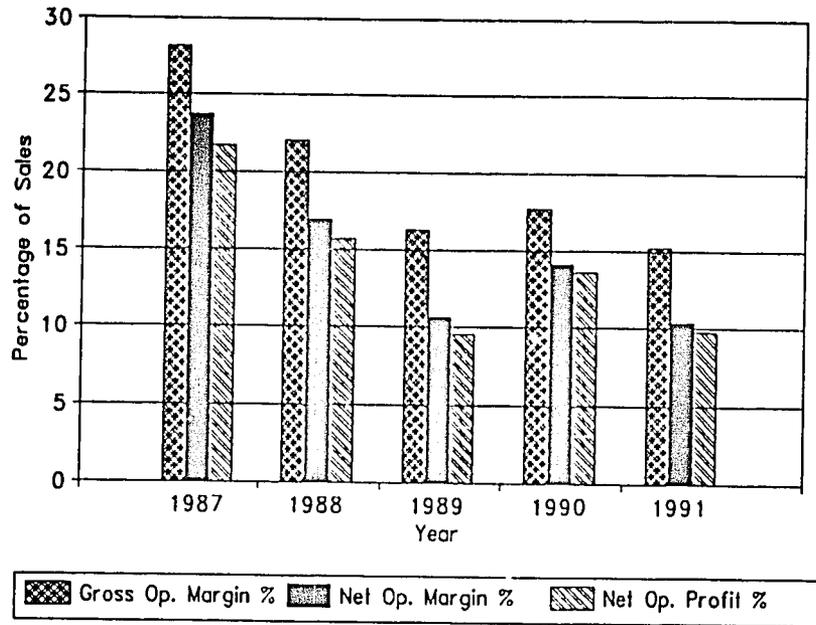


Figure 3. Wholesale Commodity Sample, Total Industrial Products.

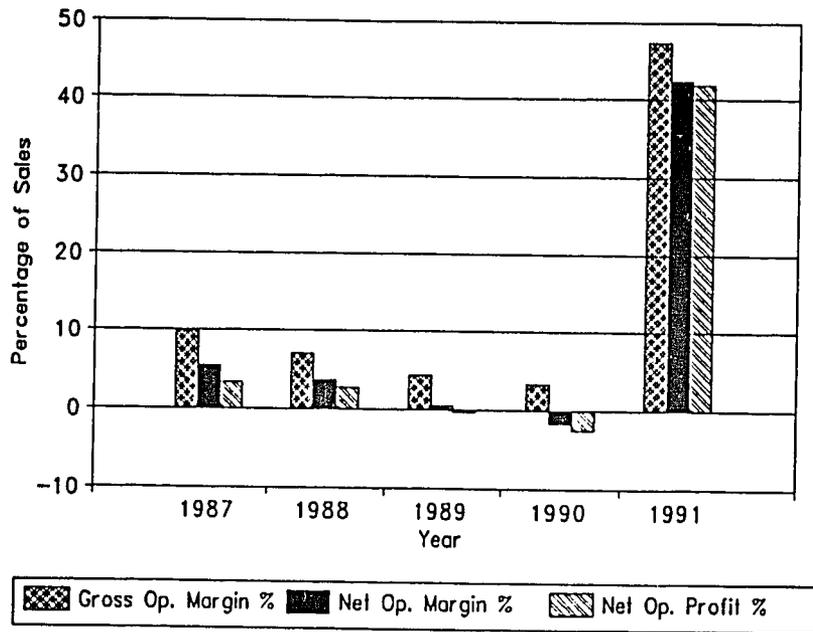


Figure 4. Wholesale Commodity Sample, Total All Products.

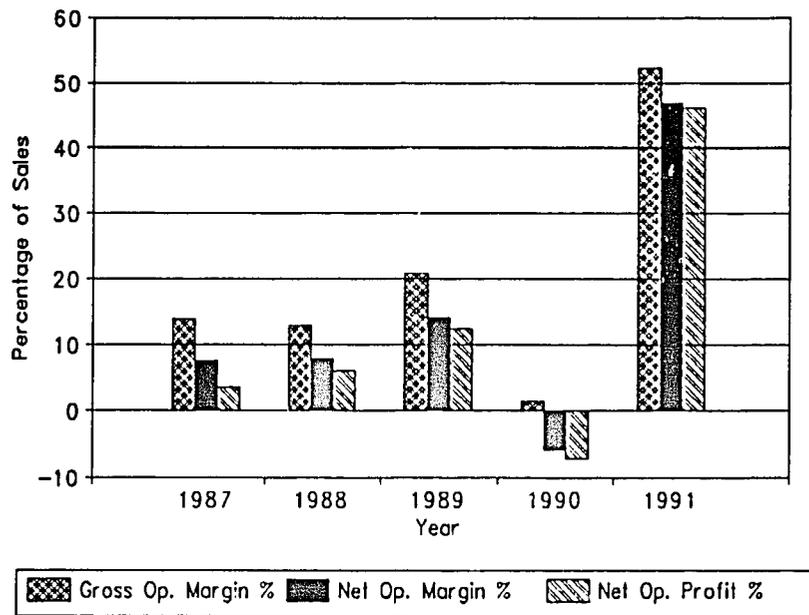


Figure 5. Wholesale Commodity Sample, Total All Products Less Sugar.

APPENDIX XIII

MISCELLANEOUS STATISTICAL INFORMATION

Year	Exchange Rates Rs - US\$1		CPI Index
	Year End	Mid Year	
1967	5.95	5.95	
1968	5.95	5.95	
1969	5.95	5.95	
1970	5.95	5.95	100.0
1971	5.95	5.95	102.7
1972	6.40	6.15	109.1
1973	6.75	6.38	119.7
1974	6.69	6.67	134.4
1975	7.71	7.10	143.5
1976	8.86	8.43	145.2
1977	15.56	8.90	147.0
1978	15.51	15.90	164.8
1979	15.45	15.58	182.6
1980	18.00	16.53	230.2
1981	20.55	19.67	271.4
1982	21.32	20.00	300.8
1983	25.00	23.52	343.0
1984	26.28	25.43	400.3
1985	27.41	27.41	406.4
1986	28.52	28.04	458.9
1987	30.76	29.40	472.6
1988	33.03	31.80	538.9
1989	36.07	34.80	601.2
1990	40.06	40.06	730.4
1991	42.58	41.18	819.4
1992	44.80*	43.86	

Sources: Central Bank Annual Reports
Statistical Division, Department of Commerce, Ministry of Trade and
Shipping