ECONOMIC EFFICIENCY OF FOOD GRAIN MARKETING IN SOUTHERN ETHIOPIA AFTER THE MARCH 1990 REFORM

Wolday Amha

I. INTRODUCTION

The poor performance of the marketing system is believed to be one of the main factors responsible for the declining productivity of labour in Ethiopian agriculture.[1] An efficient, integrated, and accurately responsive market mechanism is of critical importance for optimal allocation of resources in agriculture and for stimulating farmers to increase output [Jones 1972: 2]. Marketing must be technologically well-structured so that a continuous flow of goods from the producer to the consumer is guaranteed and the growing demand of the population living outside the agricultural sector can be met. In addition, it has to serve as an agent for signals that inform the producers about the current changes in demand [Lorenzl 1972: 211].

The food grain marketing system in Ethiopia has been under considerable stress in the last 17 years. It has been inefficient, disorganized, unresponsive, and operated under complex institutional arrangements such as the quota system, price control, limited food grain trade licensing, and road-blocks *(kella)* in towns and villages to control the movement of food grain [Cohen and Isaksson 1988: 332; Lemma 1986: 16; Homlberg 1977: 10-12]. The private wholesale and retail traders have been accused of seeking excessive profits through speculative hoarding and cheating of farmers and powerless consumers. The previous regime repeatedly alleged that the shortage of consumer goods and flourishing black markets are artificially caused by traders and believed in strict control and penalty in order to ease the situation. At one time, it even publicly executed pepper traders for small amount of speculative storing.

In a reversal of its past practices, the government introduced a liberalization policy in March 1990. One major component of this policy change was a shift to a competitive food grain marketing system. The policy is apparently still in force and its effects on the welfare of producers, traders, and consumers need to be examined.

However, there is very little reliable quantitative information and research on the performance of food grain marketing in the country. On the basis of an analysis of the March 1990 new food grain marketing policy reform and an examination of the state of food grain market integration in Ethiopia before and after the reform, this paper recommends alternative strategies for improving food grain marketing efficiency in the country.

We shall argue that while (a) market integration continues to be influenced by such factors as transport and communication facilities, the average scale of trading

firms, population density, and production structure, and (b) food grain prices still tend to be excessively dependent on the immediate post-harvest season, the marketing reform of March 1990 is likely to influence the grain markets in terms of integration and efficiency.

II. CONCEPTS, METHODS AND DATA

Although, there are different measures of marketing efficiency and methods of estimating them, food grain markets are taken to be economically efficient (price efficient) in this study when the following competitive market equilibrium conditions are fulfilled:

a)   prices vary through space only due to the variation in transfer cost;
b)   prices vary through time only to the extent of the cost of storing; and
c)   variations in the prices of different forms of products are no more than the differences in the cost of processing and marketing [Bresseler and King 1970: 209].

If markets are efficient, there is high competition among the food grain traders and the effects of competition are usually reflected through prices. If economic efficiency is low, then there is a functional monopoly within the marketing system.

Economic or price efficiency of the marketing system could be assessed by examining: (a) price variations across different markets; (b) the degree of market integration, i.e., the extent to which price movements in a market are related to price movements in other markets; and (c) the price spread in the marketing channel. Methodologically, the analysis of food grain prices is believed to give a fairly good picture of the economic efficiency of the marketing system in this type of study.

Although the food grain marketing system is compared with the efficiency conditions of the competitive model in order to estimate the level of its efficiency, deviations from the competitive model must be accepted. Attempts should always be made to study marketing efficiency in terms of a more comprehensive conceptual or methodological framework and to weigh marketing efficiency against socially desired objectives. Marketing efficiency may not be assured either by private sector initiatives (perfect competition) or by heavy-handed direct government involvement. The development of the private sector and public intervention should be coordinated in order to improve the economic efficiency of food grain marketing.

Market integration is defined as the interrelation between the time series prices of different markets, which mostly depends upon the nature and extent of competition in the market. Here, the degree to which the wholesale or retail prices of the commodities in different markets are related to each other, often measured by the correlation coefficient, is considered to be one important indicator of the economic efficiency of the marketing system. There are, however, limitations on whether market integration is an adequate measure of competitiveness of markets

and correlation coefficients are good measures of market integration [Harriss 1979: 197-218].

Despite the limitations, correlating time series price data of different market places and products is commonly used to assess the degree of market integration in many developing countries. Following a similar procedure, the measure of market integration used in the study is the correlation coefficient:

$$r_{ij} = \frac{\sum (P_{it} - \overline{P_i})(P_{jt} - \overline{P_j})}{\sqrt{\sum (P_{it} - \overline{P_i})^2 \sum (P_{jt} - \overline{P_j})^2}} \quad \dots \text{for } t = 1, 2, \dots n \quad (1)$$

where r_{ij} is the correlation coefficient between weekly retail prices P_i and P_j prevailing in two different markets i and j and Þ is the average weekly retail price in a market. A low correlation reflects bottlenecks arising due to lack of market information, lack of product homogeneity or monopoly power while a high correlation coefficient indicates better marketing efficiency.

After estimating the correlation coefficients among markets, attempts are made to explore some of the important factors behind higher or lower correlation coefficients using multiple regression analysis. The model and the variables are as follows:

$$r_{ij} = \beta_o + \sum_{k=1}^{5} \beta_k X_{kij} + \mu \quad (2)$$

where
r_{ij}	=	correlation coefficient between prices in markets i and j.
X_{1ij}	=	distance between markets i and j in km.
X_{2ij}	=	number of wholesalers and retailers in the markets.
X_{3ij}	=	dummy variable representing the type of road between two markets with a value of '1' if road is asphalted and '0' otherwise.
X_{4ij}	=	dummy variable representing production structure with a value of '1' if market area is surplus-producing and '0' otherwise.
X_{5ij}	=	size of the population.
β_k	=	coefficients of the independent variables.
μ	=	unobserved disturbance term with zero mean and constant variance.

It is hypothesized that if markets are distant, prices are not highly correlated while markets accessed by asphalted and all-weather roads are expected to have

highly correlated prices. The number of wholesalers and retailers as well as size of population in a particular market are believed to influence market access of farmers and affect market integration positively. As for production structure, surplus production is a sign of specialization which implies more market participation by farmers and better market efficiency, and a positive coefficient is expected for markets producing surplus grain.

The above independent variables are also used in another regression model to examine the factors which affect seasonal price variation of food grain. The dependent variable in this regression model is the coefficient of variation of the weekly food grain prices in a year. Last but not least, qualitative and descriptive approaches are used to indicate the impact of the new liberalization policy. The paper mainly focuses on two of the major food grains, namely, maize and *teff*.[2]

Our results are mainly based on secondary materials collected from the Agricultural Marketing Corporation (AMC), Price Studies and Policy Institute (PSPI), Central Statistical Authority (CSA), Relief and Rehabilitation Commission (RRC), and Ministry of Agriculture (MOA).

The data set needed to test market integration were collected from the Southern Regional Office of AMC at Shashemene. Eighty-eight weekly retail prices for the 17 major markets in the region were collected from the monthly reports of AMC's collection centers to the regional office. After the marketing policy reform of March 1990, the collection centers purchased food grain at open market prices. Purchasing prices for the centers were decided by the head office of AMC's Price Monitoring Unit in Addis Ababa. This exercise increases the reliability of the weekly price data collected by AMC and used in this study.

III. FOOD GRAIN MARKET INTEGRATION

A. Basic Description of the Markets

The market integration section of the study relates to the 17 major markets in southern Ethiopia. The population size, distance and type of road (from Shashemene), the number of grain wholesalers and retailers, and the production structure of these markets is given in Table 1.

B. Testing Food Grain Market Integration in Southern Ethiopia

Market integration as a measure of marketing efficiency is based on the assumption that, if prices between two markets reflect fully transport and processing costs, then the correlation coefficient between the time series prices of the two markets will be equal to one. Such a perfect correlation indicates a competitive and spatially well-integrated marketing system. But it should be noted that market integration should not be equated to the Pareto optimility of a competitive equilibrium. Even when based on a sound empirical methodology, the conclusion

that markets are well integrated doesn't, of itself, imply an efficient spatial allocation. Nonetheless, testing market integration can be viewed as basic data for an understanding of how specific markets work [Revallion 1986: 103]. Thus, a careful analysis of the time series data of food grain market prices before and after the March 1990 policy reform will give baseline figures to measure the impact of the reform.

Table 1: Characteristics of the Major Food Grain Markets in Southern Ethiopia

Name of the market	Distance (in km from Shashemene)	Type of road	No. of grain traders	Production structure	Population size
Dodola	77	All-weather	12	Surplus	9,922
Adaba	99	"	7	"	9,276
Robei	195	"	6	"	13,827
Goba	208	"	4	"	27,154
Ginnir	319	"	0	"	9,867
Arbaminch	248	"	11	Deficit	23,881
Arsi Negelle	25	Asphalt	13	Surplus	16,511
Awassa	25	"	6	Deficit	42,825
Shashemene	-	"	12	Surplus	37,546
Alaba	62	"	17	"	10,662
Sodo	140	All weather	23	Deficit	28,589
Ajji	32	Asphalt	30	Surplus	2,673
Zeway	87	"	10	Deficit	6,493
Meki	117	"	13	"	12,899
Butajira	137	All-weather	24	Surplus	15,331
Hosaena	240	"	10	"	18,213
Gimbicho	272	"	2	"	2,809

Source: AMC, Southern Regional Office, 1990; CSO, *Statistical Abstract,* 1988.

Table 2: Correlation Coefficients of Weekly Retail Prices of Maize and Teff (Before and After the March 1990 Reform)*

Market	MAIZE			TEFF	
	Pre-reform	Post-reform	Percentage change	Pre-reform	Post-reform
Shashemene	1000	1.000	-	1.000	1.000
Dodola	-	0.742	-	-	0.699
Adaba	-	0.093	-	-0.288	0.579
Robei	0.195	0.833	352.82	-0.177	0.567
Goba	0.462	0.842	82.25	-0.244	0.600
Ginnir	0.716	0.854	10.27	-0..462	0.501
Arbaminch	0.239	0.893	277.12	-0.573	0.750
Arsi Negelle	0.716	0.920	28.49	-0.548	0.874
Awassa	0.796	0.950	19.35	-0.233	0.704
Alaba	0.801	0.957	19.48	-0.404	0.837
Sodo	0.345	0.917	165.80	-0.671	0.820
Ajji	0.624	0.951	52.40	-0.398	0.772
Zeway	0.233	0.873	274.68	0.683	0.742
Meki	0.294	0.942	220.41	0.303	0.695
Butajira	0.540	0.922	70.74	-0.436	0.786
Hosaena	0.829	0.917	10.62	-0.226	0.859
Gimbicho	0.161	0.947	488.20	-0.409	0.027

* The coefficients correlate the weekly prices of Shashemene with those of each of the other 16 markets and are taken out from the Pearson pairwise correlation matrices.

To this effect, the correlation coefficients of the weekly retail prices in the 17 markets for the two periods were calculated for maize and *teff* separately. The results presented in Tabe 2 are only the coefficients between the prices at Shashemene and those in each of the other markets, although the pairwise correlation matrices for all the markets were computed. Before the reform of March 1990, the retail prices of maize at Shashemene are highly correlated pairwise with the prices at Alaba, Hosaena, Awassa, Arsi Negelle, Ginnir, Ajji, and Butajira markets. The *teff* prices are negatively correlated with the prices in most of the markets.

After the reform of March 1990, the weekly prices of maize at Shashemene are highly correlated with all the markets except with those at Adaba. Similarly, the

retail prices of *teff* are positively correlated with the prices in all the other markets, except with those at Gimbicho. The correlation coefficients of both maize and *teff* have significantly increased after the reform. Hence, after the March 1990 reform the markets are well-integrated compared to the pre-reform situation. It can be concluded that the economic efficiency of the markets has increased significantly and has partly solved the problems of food grain marketing. The lower correlation coefficients before the reform of March 1990 are explained by the existence of state monopoly in food grain marketing and the various restrictions on the inter-regional trade. This has completely destroyed the trade pattern and the competitive nature of food grain marketing.

An attempt was also made to examine the determinants of the correlation coefficients. The regression model specified in Equation 2 was estimated for the correlation coefficients of the maize price data after the March 1990 reform. The regression result are:

$$r = 0.050 + 0.003 \, X_1 + 0.048 \, X_2 + 0.025 \, X_3 + 0.094 \, X_4 \quad R^2 = 0.58 \quad (3)$$
$$(0.292) \, (0.001) \quad (0.142) \quad (0.006) \quad (0.115)$$

The estimated regression equation indicates that distance, type of road (both significant at one per cent) and number of food grain traders (significant at five per cent) are found to be important variables influencing the level of food grain market integration in southern Ethiopia. The structure of production and population size were insignificant variables. The estimated coefficients have the expected signs, except for that of distance between the markets.

If perfect competition is assumed, price differences will reflect the cost of transferring the food grain. A parity price can be computed by deducting the transport and handling costs of the food grain from the prices at Shashemene. Table 3 indicates the spatial price differentials of maize and *teff* in the 17 markets.

The retail prices of the food grains after the March 1990 reform have shown a rapid increase. For example, within 13 months, the average retail prices of maize and *teff* have increased by 30.94 and 31.71 per cent, and the price of maize has increased in all the markets except for Robei. Similarly, the average price of *teff* has shown an increase in all the markets. Moreover, Figure 1 clearly depicts the increase in the weekly price of maize and *teff* at the Shashemene market after the March 1990 reform.

A linear regression equation was also estimated to study the relationship between the average prices of maize in the different markets (M) and the distance of the market from Shashemene:

$$M = 56.317 + 0.036 \, X_1 \quad R^2 = 0.40 \quad (4)$$
$$(2.023) \quad (0.012)$$

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Distance is a significant variable at one per cent level of significance. If distance increases by one km, then the mean price of maize will increase by about four cents.

Table 3: Average Weekly Retail Prices of Maize and Teff in the 17 Markets in Southern Ethiopia (Before and After the March 1990 Reform)

Market	Maize			Teff		
	Pre-reform	Post-reform	%tage change	Pre-reform	Post-reform	%tage change
Shashemene	39.42	57.43	45.68	74.86	105.95	41.53
Dodola	-	60.96	-	91.33	104.89	14.85
Adaba	-	63.00	-	84.17	111.24	32.16
Robei	69.30	66.51	-4.02	101.06	139.51	38.01
Goba	73.79	67.60	8.39	103.42	124.24	20.13
Ginnir	56.41	68.04	20.62	87.22	113.53	30.17
Arbaminch	53.91	65.90	21.31	103.65	131.11	26.77
Arsi Negelle	39.97	59.21	48.14	76.47	106.56	39.35
Awassa	40.27	59.54	47.79	79.91	104.89	31.26
Alaba	32.90	50.67	54.01	83.40	110.46	32.45
Sodo	46.00	61.38	33.43	69.04	82.56	19.58
Ajji	31.10	49.83	60.23	84.00	120.68	43.67
Zeway	38.75	65.88	70.01	81.43	114.59	40.72
Meki	42.13	63.86	51.16	78.59	102.75	30.74
Butajira	44.13	56.80	30.07	73.57	111.33	51.13
Hosaena	48.70	63.53	34.45	84.41	97.07	15.00
Gimbicho	44.72	61.40	37.30	64.36	90.07	39.95
Overall average	46.77	61.24	30.94	83.58	110.08	31.71

Table 4: Coefficient of Variation of Weekly Retail Prices of Maize and Teff
(Before and After the March 1990 Reform)

Market	Maize			Teff		
	Pre-reform	Post-reform	%tage change	Pre-reform	Post-reform	%tage change
Shashemene	0.170	0.278	63.53	0.069	0.177	156.52
Dodola	-	0.115	-	0.006	0.151	2416.67
Adaba	-	0.078	-	0.035	0.184	425.71
Robei	0.118	0.266	125.42	0.063	1.054	1573.02
Goba	0.118	0.242	105.08	0.046	0.232	404.35
Ginnir	0.261	0.348	33.33	0.121	0.266	119.83
Arbaminch	0.172	0.200	16.28	0.091	0.182	100.00
Awassa	0.206	0.316	53.40	0.081	0.198	144.44
Alaba	0.274	0.268	-2.19	0.158	0.156	-1.27
Sodo	0.092	0.277	201.09	0.101	0.133	31.68
Ajji	0.156	0.319	104.49	0.149	0.191	28.19
Zeway	0.097	0.257	164.95	0.154	0.180	-16.88
Meki	0.139	0.275	95.84	0.083	0.198	138.55
Butajira	0.107	0.262	144.86	0.103	0.170	65.05
Hosaena	0.201	0.173	-13.93	0.220	0.186	-15.45
Gimbicho	0.181	0.189	-	0.160	0.304	90.00

Table 4 shows the coefficients of variation of the weekly retail prices of maize and *teff*. After the March 1990 reform, the coefficient of variation for the weekly prices of maize has increased in all markets except for Alaba and Hosaena. Similarly, the coefficient of variation for *teff* has increased in all markets but not in Alaba, Zeway, and Hosaena.

The explanation for such an increase is that the markets after the March 1990 reform are becoming sensitive to the interaction of supply and demand which resulted in large fluctuations in the weekly prices of maize and *teff*. Such a response of the food grain prices to changes in the market conditions could be partly considered as an improvement in the efficiency of food grain marketing.

There were a number of factors which contributed to the changes in the coefficient of variation. To assess this, the coefficient of variation of maize prices

(C.V.) was regressed on the independent variables used in Equation 2. The results are as follows:

$$C.V. = -0.067 + 0.001X_1 + 0.168X_2 + 0.004X_3 + 0.035X_4 \quad R^2 = 0.61 \quad (5)$$
$$(0.098) \quad (0.001) \quad 0.047) \quad (0.002) \quad (0.038)$$

The variation in the weekly price of maize is affected by distance, number of food grain traders (both significant at one per cent), and type of road (significant at five per cent).

IV. THE FOOD GRAIN MARKETING REFORM OF MARCH 1990

Although it is too early to examine the socio-economic impact of the new food grain marketing reform, attempt is made to describe the policy reform and show some of the immediate effects on the size of food grain traders and the price structure in this section.

A. The Liberalization Process in Food Grain Marketing

Before the March 1990 reform, AMC was given an important role in the socialization process of agricultural marketing. It was considered as an instrument of providing food grain to the urban poor at a reasonable price. The existence of AMC was also justified for ideological and national security reasons (supplying food grain to the army and government institutions).

The results of the food grain marketing policy before March 1990 were: (a) the development of black or night markets; (b) lower competition among food grain traders for non-quota grain; (c) restricted flow of grain from surplus to deficit regions and significant price variation among regions; (d) lower price of food grain; and (e) enormous complaint from the small farmers [Cohen and Isaksson 1988: 332; Alemneh 1987: 140; Kirsche, Goricke, and Worz 1989: 142].

Different international organizations, governments, and scholars have been insisting on a radical liberalization process. The World Bank, EEC, and SIDA have criticized the price policy and quota regulation. They set conditions relating to policy changes in order to get access to loans [Cohen and Isaksson 1988: 336-39]. The main conditions were limiting the importance of AMC, expanding the role of the private sector in agriculture and allowing the market more influence in the determination of prices. But the government was not in a position to accept these conditionalities.

The ideological and economic policy changes in the USSR and East European countries at the beginning of 1990, coupled with the internal pressure due to the low performance of public enterprises, forced the government to introduce a liberalization process. Liberalization policy is the process of redefining property rights, including the relative roles of the public and private sectors in the economy, not a process of simply "getting the government out of the market" [Schmid 1978].

It is the removal of legal prohibitions to private trade in selected commodities and taking appropriate measures in order to facilitate the functioning of the private sector, with the objective of placing greater reliance on the market in the allocation of resources [Saatz, et.al. 1989: 703]. Given the above definitions, the March 1990 policy reform in Ethiopia could be categorized as a liberalization policy.

The government has openly admitted the weakness of the economic policies of the late 1970s and 1980s which discouraged the development of the private sector as a whole. The policy reform of March 1990 embodies:

a)   selling or leasing unprofitable government enterprises to private entrepreneurs;

b)   attracting Ethiopians and foreigners to invest in every sector of the economy without restrictions. The "Special Decree of Investment" provides many incentives and allows the leasing of rural land by the government to private investors in order to boost agricultural production [PMAC 1990 (a): 6];

c)   removing the capital ceiling for private sector investment;

d)   introducing the right of employing labourers (workers) in the agricultural sector;

e)   allowing private trade in the domestic and foreign trade sectors;

f)   removing the road-blocks *(kella)* and allowing, particularly, food grain trade to function according to market equilibrium without restrictions;

g)   giving the right of abandoning co-operatives to the members if they want to; and

h)   changing the form and content of the political party [PMAC 1990 (b): 7-10].

Based on the above policy reform, the AMC drafted its own explicit marketing policy guidelines for the 1990/91 budget year. The objectives of AMC, after the March 1990 policy reform, are: to purchase and sell food grain in the free market in order to satisfy the needs of consumers and generate profit; to keep strategic reserves in order to stabilize the market; and generate hard currency by exporting food grain. The corporation intended to purchase about 2.2 million quintals of food grain without any change in its budget, human resource, or institutional structure.

AMC planned to conduct the purchase of food grain through three mechanisms:

a)   AMC itself: the corporation through its own permanent employees purchases directly from the producers and traders;

b)   Agents and commission agents: the corporation uses an agent in a specific region who will purchase food grain at a price set by the corporation. The corporation can also employ a commission agent (a trader or an association) to purchase food grain using the capital of AMC. The guideline of the corporation attempts to encourage the food grain purchasers of the corporation (permanent employees) to gradually develop into private agents who would be supplying food grain to the corporation; and

c)   Contract: the purchase of food grain from state farms, settlement farms, service co-operatives, producers' co-operatives and other institutions is planned to be undertaken through contracts made between the two parties.

AMC proposed two methods of incentives in order to encourage grain purchasers, i.e., Birr 0.30 per quintal for fulfilling a quota and Birr 1.25 per quintal for over fulfilling a quota [AMC 1990: 23]. The corporation also introduced a sort of bartering system with the food grain traders by supplying basic commodities which are not available in the area. Recently, the corporation effectively exchanged food grain with salt. Moreover, AMC planned to make use of underutilized stores by making it available to its agents and to provide fumigation service to traders at a reasonable price. If the trucks of AMC are not fully utilized, it could provide services to the traders at a price set by the government.

The food grain policy reform is expected to improve the conditions of farmers, food grain traders and consumers. Due to the abolition of the fixed AMC prices, farmers are expected to increase food grain production and productivity. To food grain traders, the restrictions and prohibitions are removed; the road-blocks *(kella)* exist no more; the compulsory sale to AMC is abolished. This is believed to improve inter-regional trade and allow supply and demand to move closer to equilibrium in space. For consumers, it would result in stable markets and the abolition of black markets.

B.   Policy Options and Implications in Food Grain Marketing

Marketing policy reform proposals are often presented as either "public-sector solutions" or "private-sector solutions", and often as mutually incompatible options. Taking such extreme positions ignores the complementary relationship between the public-sector and private-sector solutions and would be an attempt to override the possibility of mixing the two. A marketing policy is expected to be flexible and responsive to changes in the socio-economic and political development of the country. The food grain marketing system in Ethiopia during the last 16 years·has been neither flexible nor responsive.

In order to ensure that food grain marketing in Ethiopia is performing well, the state doesn't have to assume direct responsibility by engaging in marketing activities. The government policy objective of increasing food grain supply could be better achieved by targeting state interventions at strategic points in the marketing system to encourage private traders. The state would also play a vital role in establishing and enforcing the rules of the game, in coordinating marketing activities, and in developing competitive mechanisms that will discourage undesirable behavior by market participants. The implications of the food grain marketing policy adjustments and reforms are examined in the following section in terms of its effect on public sector marketing licensing requirement and pricing mechanism.

1. The Role of Public Sector Marketing

a. AMC

The role of the government in food grain marketing needs to be redefined, restructured, and reorganized in order to promote the free operation of market participants. The role of AMC has already started being redefined to complement the market liberalization process. The new marketing organization should be involved in the market stabilization process, streamlining the standard operating procedures, improving the performance of government marketing organizations, providing market information service such as price and quantity reporting, and establishing a system of grades and standards that could reduce the transaction costs of the market participants in food grain trade.

b. Service co-operatives

Before the March 1990 reform, service co-operatives were primarily used as a means of collecting AMC quota from peasant producers. At present, many of the service co-operatives are being dissolved. Rather than this, their role should be redefined to benefit the peasants. The co-operatives should undertake food grain trading in the free market and establish speculative storing to improve the bargaining position of the small farmers. Moreover, service co-operatives could provide credit, inputs and consumer goods marketing services directly to the farmers in the future. This again improves the farmer's position with regard to pricing, storing, transporting and collecting information.

2. Market Organization and Licensing Requirement

One of the objectives of the March 1990 reform is the elimination of government legal monopoly in food grain marketing and the abandoning of the price control and quota system. The reform favours a food grain marketing system that is flexible enough to respond quickly to small changes in market conditions. The new marketing system is based on flexible prices involving large number of private buyers and sellers. The government and AMC could play a positive role in collecting, disseminating and acting upon the enormous amount of scattered information over a wide area.

Before the March 1990 reform, the licensing requirement poses barriers to entry into food grain marketing. The marketing policy provides license access to certain group of privileged individuals. This created opportunities to government officials to receive bribes and increased corruption and nepotism within the state administrative apparatus.

The policy reform adjustment of January 1988 implemented a 7.7 per cent average farmgate price increase for all grain quota deliveries to AMC. Private traders were allowed to operate in all the main grain producing areas. The impact

3. Food Grain Pricing Mechanisms

Food grain prices represent an effective mechanism for redistributing income in Ethiopia. The marketing policy before March 1990 had a set of political objectives such as ensuring the food supply of the army and protecting urban consumers. This entailed high cost to the society in terms of stagnating the rural economy.

It was repeatedly confirmed by many researchers that the fixed prices of food grains set by AMC and the quota system were major constraints for agricultural development. The centrally administered food grain pricing system has proved to be inefficient and has created economic distortions. Policy makers should consider a flexible food grain price structure that responds quickly and effectively to the rapidly changing market conditions. The food grain policy reform of March 1990 has influenced the behaviour of market participants and the market structure. This is clearly shown in Table 6.

Table 6 indicates that the price of wheat has declined by 1.3 per cent in 1988 compared with that of 1987. The prices of all the food grains has increased in 1989 compared with the 1988 prices. All the prices, except that of wheat, have declined in 1990, apparently due to the effect of the 1988 policy adjustment.

The new food grain pricing system should reflect the seasonal and regional variations in supply and demand resulting from the variation in marketing costs and returns. Instead of attempting to fix food grain prices, policy makers should use other indirect and direct methods to influence them. A first attempt could be setting upper limits or lower limits (floors) on the prices while allowing actual prices to vary through time and across space according to economic conditions. The government could intervene in the market through open market operation, if the food grain prices exceed the limits. The role of stabilizing the market through the above means should be given to AMC as one of its tasks.

V. CONCLUSION

The food grain marketing reform of March 1990 is evaluated in terms of the improvements made as compared with the pre-reform situation. Although it is difficult to offer a definite conclusion on the overall effects of the new policy due to lack of sufficient and reliable data, some of its immediate impacts can be indicated.

As a result of the elimination of AMC's legal monopoly, the number of the licensed and unlicensed food grain traders has increased significantly. At the same time, AMC's subsidy and its excessive overheads are expected to decline due to the reduction of food grain purchases in the last two years.

Table 6: National Average Open Market Prices of Major Food Grains in Ethiopia (1987-90)*

Type of Food grain	Price in Birr/kg				Percentage change		
	1987	1988	1989	1990	87/88	88/89	89/90
Teff	0.92	1.05	1.02	1.00	14.1	2.9	-2.0
Wheat	0.78	0.77	0.82	0.90	-1.3	6.5	9.6
Barley	0.67	0.67	0.76	0.74	-	13.4	-2.6
Maize	-	0.52	0.56	0.55	-	7.7	-1.8
Sorghum	0.59	0.81	0.84	0.68	37.2	3.7	-19.0

*The averages are for monthly prices from January to June.

Source: Central Statistical Authority (CSA).

    This study has clearly indicated that the average retail price of maize and *teff*, the market integration, and the coefficient of variation has increased after the March 1990 reform. The reform has improved the operation of free market food grain trading and its efficiency. Moreover, the urban consumers have lost the food grain subsidy through *kebelle* (urban dwellers association) shops.

    Unless the food grain marketing policy reform is accompanied by structural reform in the productive, transportation and credit systems, the improvement in the efficiency of food grain marketing might stagger in the near future. The policy reform should not only concentrate on discouraging government intervention, but should also attempt to create a competitive environment in food grain marketing and remove unfair marketing practices of market participants, market instability, and uncertainty through government intervention. Last but not least, we have to learn from the experience of many African countries that liberalization is not simply a one-shot event, but a process of market-oriented development which continues adjusting to new environments.

NOTES

1.   The low prices of agricultural products, shortage of consumer goods, lack of improvement in farm technology, civil war, natural disaster, and inappropriate economic policies are among the other major obstacles to the development of the agricultural sector in Ethiopia [Alemneh 1987: 90-99; Cohen and Isaksson 1988: 323-48].

2.   *Teff (Eragrostis teff)* is the most important staple grain only in Ethiopia.

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