

**TOLERATING THE PRIVATE SECTOR:
GRAIN TRADE IN TANZANIA AFTER ADJUSTMENT**

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ABBREVIATIONS

CPI	—	Consumer Price Index
GDP	—	Gross Domestic Product
NMC	—	National Milling Corporation
Tsh	—	Tanzanian Shilling

1. INTRODUCTION

Recent agricultural market reforms in Tanzania have focused on price liberalization and institutional reform to improve market performance. Although many scholars, farmers, consumers, and, to a lesser extent, politicians support such reforms, the debate on the appropriate role of private traders and official marketing agents continues. The main issue being debated is whether certain efficiency and equity objectives would justify direct public-sector interventions in pricing and marketing. Conversely, could such objectives be achieved by a completely liberalized marketing system?

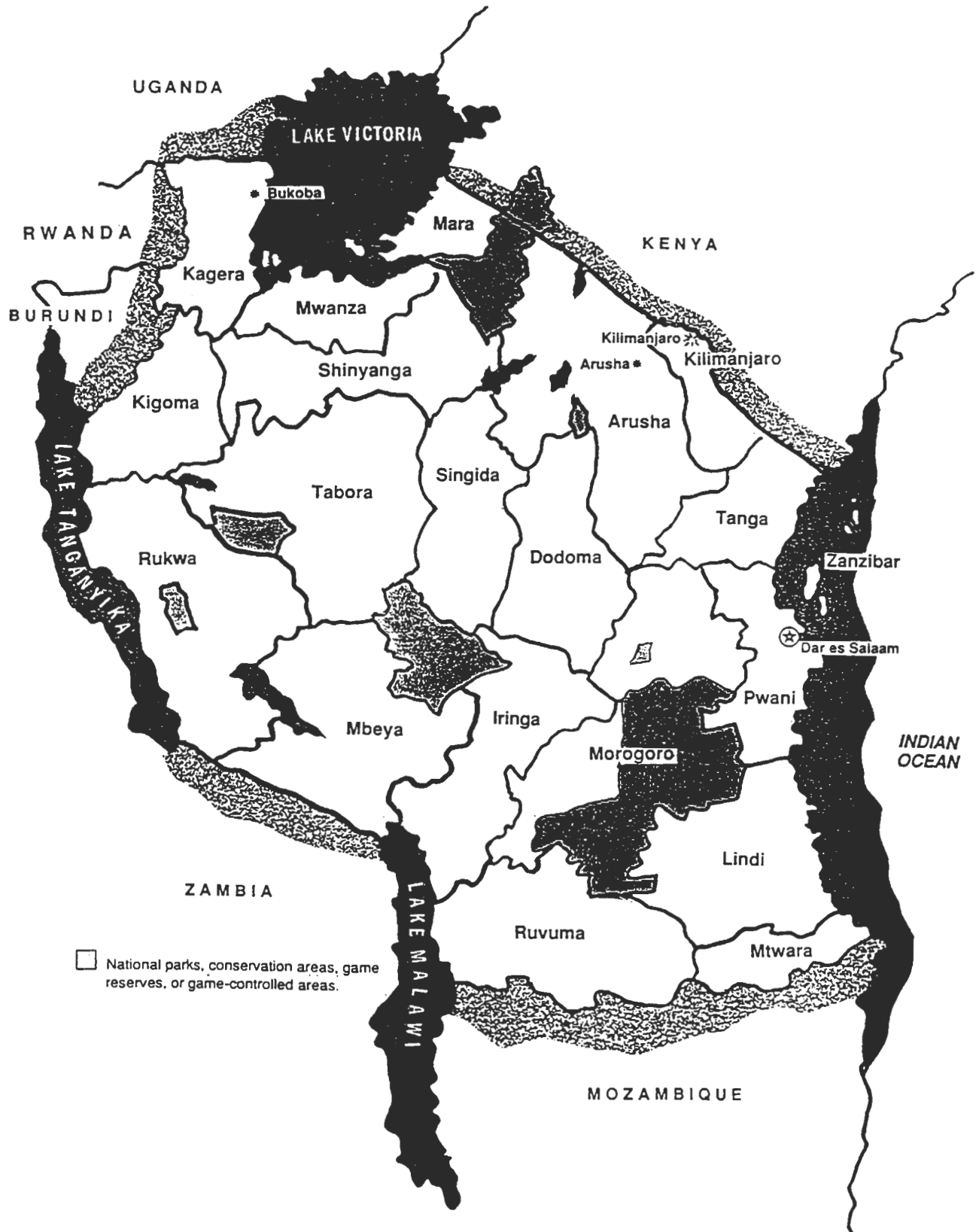
In this paper, we will argue that there is a role for government, albeit a far more modest and indirect one than in the past. So far, the government has merely tolerated private trade activity, even though private markets have performed remarkably well. When the official food marketing structure practically collapsed in the early 1980s, a flurry of private market activity broke out, and any "vacuum," if there was any, was quickly filled. Food supplies to urban areas quickly and consistently increased. Moreover, by the late 1980s, traders had developed their own market institutions, organizing themselves into indigenous marketing and credit cooperatives, concluding collective bargaining agreements with porters, and using a brokerage system to facilitate wholesale buying and selling.

The government's role in supporting the development of these markets was nonexistent, however, and sometimes not even tolerant of private trade. On the contrary, expectations of drought in the late 1980s and early 1990s immediately triggered the imposition of local administrative restrictions on private grain trade. Outdated notions of "food security," in which local food exports are to be avoided at all cost, still seem to dominate government thinking, and private traders are still seen as endangering such "food security."

It was against this background that we undertook a "quick and dirty" survey of wholesale grain traders in August and September of 1991. We hope that this report is timely and will help foster a more pro-active role of government and donors with respect to the private sector in Tanzania. Developing the private sector in Tanzania should not imply merely looking for foreign investors to revitalize the parastatal sector. First and foremost, it should imply developing Tanzania's own indigenous private sector, which has not received the attention it merits.

Our main objective is to give an initial assessment, both nationally and regionally, of the impact of market liberalization on grain trader behavior. We have focused on wholesale grain traders, i.e., traders who buy and sell bags of

Map 1 — The Regions of Tanzania



food grains.¹ In order to do this, we will present the traders' evaluation of the changing marketing environment of the 1980s and the concurrent changes in traded volumes, prices, gross marketing margins, and storage and investment behavior and preferences. The paper will also shed light on the nature of the new institutions that have evolved in the private sector, and discuss the current bottlenecks and conditions needed for the private grain traders to operate more efficiently. Finally, we will indicate what we think the role of the government in the liberalization process could be.

In the remainder of the introduction, we will briefly position the grain trade in Tanzania's economy and recapitulate the salient points in its history.

The agricultural sector employs about 80 percent of the 24 million people and contributes around 50 percent of GDP and 75 percent of export earnings. Among other things, the sector is expected to supply food at a low cost to other sectors of the economy, particularly those in urban areas. Since independence in 1961, the government of Tanzania has played a dominant role in the production and marketing of agricultural commodities and inputs. The main objectives for government intervention in the sector were to ensure adequate food supplies to the urban population at "reasonable" prices, to reduce price uncertainties for producers and hence stabilize farm incomes, to protect farmers from exploitation by private traders, to extract agricultural surplus for the development of the industrial and other sectors of the economy, to guarantee foreign exchange earnings for the government, and to reduce income inequalities between rural and urban areas as well as between regions.

To achieve these objectives, the government imposed price controls, suppressed private trade, restricted internal and external trade, and became directly involved in purchasing, selling, storing, and transporting produce and inputs. For instance, in 1974 pan-territorial producer and consumer prices for food crops were introduced partly to encourage production in potentially productive but remote areas and partly to bring about a more equitable distribution of welfare. It was strongly believed that uncontrolled marketing activities of private traders would not achieve the social objective of regionally balanced agricultural growth. It was for the same reasons that fertilizer prices were subsidized and sold at pan-territorial prices.

Whereas producer prices for food crops were controlled at low levels in order to extract agricultural surplus, consumer prices were controlled and subsidized with the objective of providing cheap food to poor consumers as well as protecting consumers from interseasonal and interannual price fluctuations. Moreover, following a standard "price scissors" argument, provision of cheap food to nonagricultural sectors was meant to encourage industrialization by maintaining low wage rates. The suppression of private traders together with the restriction on the interregional movement of staple grains (maize, rice, and wheat) to 30 kilograms per person until 1984 was aimed at facilitating market

¹ We have excluded farmers who sell large quantities of their own produce and traders who buy grains in bags, but sell in tins (retailers).

interventions of official marketing agents by shielding them from competition. In the absence of private traders government also had to involve itself in stockholding to stabilize interannual price variation for food security purposes.

Private grain marketing activities, then, have been outlawed since 1962. De jure, private traders should not undertake marketing activities even now. De facto, however, private trade operations in grain marketing have always existed underground. This has particularly been the case during food crises. Two food crises are worth mentioning. The first was between 1973/74 and 1974/75, and the second food crisis took place in 1982/83. In both, food shortages were triggered by droughts but compounded by the government's crackdown on private trade. The government blamed private traders for taking advantage of the shortage to enter the food market, hoard food, and charge prices far above the official prices. Although the government dealt severely with private traders during both periods, it was unable to totally eradicate their activities. The main reason for the government's failure to totally suppress traders was the inefficiency of the official marketing agent (the National Milling Corporation) both in terms of its purchases from farmers and its sale of adequate food quantities to consumers at government fixed prices. As a result, food shortages persisted, domestic production remained low, and inadequate amounts of food were imported due to a shortage of foreign exchange.

By the early 1980s the costs of food and input subsidies had reached insupportable levels: the losses made by official marketing agents had reached an equivalent of 15 percent of GDP. Costs related to market extension included the cost of trading in remote and unprofitable markets, the cost of transport subsidies and the cost of stockholding. Costs of institutional inefficiencies arose from incompetent management and corruption, which in turn were related to the lack of competition in marketing operations. Lastly, other costs arose from welfare losses caused by misallocation of resources. For instance, distorted price signals induced geographic production patterns that proved unsustainable after the collapse of the official price support system.

Thus, the interventionist policies benefited neither producers nor consumers (Amani, Kapunda, Lipumba, and Ndulu 1988). Prices to producers were too low to provide conditions for a supply response. Poor strata of rural households were in effect penalized for the benefit of urban consumers. The policy of protecting urban consumers also failed: official marketing agencies were not able to provide adequate food supplies, forcing consumers to pay high prices in the parallel markets.

The main factors, then, which eventually led to the adoption of liberalization programs by the government were the increasing financial imbalances in the formal economy, the huge financial losses within the government-controlled agricultural sector and the clear evidence of failure of interventionist policies to achieve their objectives.

Beginning in the 1984/85 marketing season, grain marketing was de facto and partially liberalized. Immediately, the food supply to urban areas such as Dar es Salaam increased considerably (Amani et al. 1988). At the same time, real

consumer prices sharply depreciated. It initially seemed that this supply effect was due mainly to favorable rainfall. However, the more recent years, i.e., 1989/90, 1990/91, and 1991/92, have shown below-average rainfall, but no reversal of the earlier trends in prices and quantities. Although prices have appreciated, they are nowhere near previous drought levels, and supply to urban areas continues practically unabated.

Some observers see the supply reaction as essentially ephemeral for other reasons than temporary good rainfall. They argue that the supply reaction observed after adjustment is the symmetric reversal of an earlier perverse supply reaction caused by the contraction of the Tanzanian economy in the early 1980s. During that crisis, the unavailability of incentive goods induced households to reduce work effort, even in the presence of rising prices for own-produced products on the parallel markets. When the import regime was partially liberalized after 1984, the argument goes, the reappearance of consumer incentive goods triggered a one-time supply reaction. Given that it is usually assumed that the observed decline in consumer prices of food grains was accompanied by a parallel decline in producer prices, a perfect symmetry with the earlier perverse supply reaction is now obtained: a positive output effect in the presence of declining producer prices.

However, in this paper we argue that the increase in volumes of food grains marketed has persisted until the present period, and this increase seems to be more fundamental and orthodox than one caused by good rainfall and a jump in the availability of consumer goods. The institutional change from a situation of formal monopsony and black markets in the early 1980s to de facto liberalized private food grain trade presently, has considerably reduced the transaction costs involved in marketing. Thus, the major urban consumption centers have benefited not only from an increased availability, but also from a reduction in the real consumer price of food. The reduction in transaction costs was such, however, that the decrease in consumer prices did not always imply a concurrent decline of producer prices. In fact, in surplus production areas with reasonable transport infrastructure, increased competition between traders resulted in both higher producer prices and lower consumer prices.

2. METHOD

A number of studies on grain traders have been undertaken with the objective of evaluating their impact on producer and consumer welfare. Such studies include those by Seenappa (1987), Gordon (1988), Scarborough (1989), Amani and Kapunda (1990), Amani and Maro (1991), Coulter and Golob (1991), and Santorum and Tibaijuka (1991). Whereas these studies have shed some light on the performance of grain traders, most of them have based their conclusions on cross-sectional data for a particular year. The only exception, perhaps, is Amani and Maro's study, which covered two farming seasons. The current study was designed to contribute to the debate by carrying the analysis for a much longer period and obtaining certain longitudinal information. To achieve this objective, the study had to rely on trader recall, which can a priori be criticized on reliability grounds.

The study was conducted between mid-August and December 1991. All 20 regions of mainland Tanzania were covered. Because it is difficult to locate wholesale traders when they are based in rural areas, the study concentrated on traders in urban areas.

In general, the number of wholesale traders (and volume of grains traded) is a function of size of the urban population and its location relative to main sources of grain surplus. One will find more wholesale traders in regional headquarters than in district headquarters. Consequently, the proportion of wholesalers selected for interview was high in big towns and the proportions declined for small towns.

A sample of wholesale traders was selected from all regions. In some markets the sample was randomly drawn from a list of wholesale traders. However, such a list was not available in some markets and it was difficult to prepare such a list because of a lack of cooperation from traders. In such cases, researchers interviewed only those wholesale traders who were willing to cooperate, reducing and biasing the originally envisaged sample size. The lack of cooperation from many traders had to do with their frustration with the government's failure to recognize their role in agricultural marketing and to provide them with some form of concrete, official support. At the end of the survey a total of 58 wholesale traders were interviewed, 53 in up-country regions and 5 in Dar es Salaam.

To understand what new institutions evolved in the private sector, we did a case study of Tandale market, the largest urban grain market in Dar es Salaam, as a case study. Tandale receives food grains from several regions of the country.

3. EVOLUTION OF MARKETING STRUCTURE

The recent evolution of the marketing structure in Tanzania can be viewed from three main policy periods. First, the single-channel marketing system was in effect before 1984. Second, a quantity-restricted period occurred from 1984 to 1987. Third, the lifting of quantity restrictions in 1987 marked the beginning of the period of de facto liberalization — a policy which has persisted until now.

The period before 1984 was dominated by a single-channel marketing system for almost all agricultural commodities and farm inputs. Only cooperative unions, marketing boards, and crop authorities could undertake marketing functions. A number of important changes in marketing organization were made between independence and 1984, particularly official marketing arrangements, reallocation of existing marketing facilities, and official pricing. Private grain traders were eliminated from the market by the 1962 Agricultural Products Act, which institutionalized cooperatives throughout the country. The Act forced some cooperatives with no experience and capacity for procurement to assume the responsibility of primary marketing. By 1976 many cooperatives were taking financial losses and were perceived as not adequately serving the interests of farmers. However, when marketing boards and crop authorities replaced cooperatives in 1976, the new institutions only compounded the inefficiencies in agricultural marketing. Private traders stepped in where these state institutions failed, and parallel markets for food grain emerged.

By 1984 it was apparent to the government that state control of agricultural marketing had not achieved the government's objectives, particularly the one of national food security. The collapse of the formal institutions was obvious, creating pressure for the liberalization of agricultural marketing. Such pressure was fueled by two observations. First, official price controls for staple grains could not be maintained and hence open market prices became the effective prices. Second, inefficient official marketing agencies had put severe budgetary pressure on the government as the government found it necessary to subsidize their activities.

As of March 1984 the government allowed private traders to purchase and transport up to 500 kilograms of food crops at any one time. There was no condition as to the source of purchase. This policy change slightly eased food shortages. Cooperatives continued to be the main participant in food grain markets.

In 1987 the quantity restriction was removed, but traders were not allowed to purchase directly from farmers. They were obliged to purchase from primary societies or other official agencies. However, since prices paid by official

agencies were administered prices and did not reflect actual economic costs, private traders continued to purchase directly from farmers at parallel marked prices. In 1989 the government reiterated its support for private traders, while reaffirming, however, the restrictive condition on the source of purchase. To date, no official policy statement has relaxed this condition. This situation has created considerable uncertainty among private traders about the seriousness of the government's commitment to full liberalization. Moreover, the government's verbal support for the private sector has not produced any tangible support, e.g., official government assistance in the areas of market infrastructure and credit programs tailored to private grain traders.

4. EMPIRICAL ANALYSIS

GENERAL CHARACTERISTICS OF TRADERS IN SAMPLE

The traders have been grouped in broad geographical zones. The zone described as the Big Four comprises the four main maize-producing regions situated in the west of the country: Rukwa, Mbeya, Iringa, and Ruvuma. The Northern zone is constituted by Arusha, Kilimanjaro, Tanga, and Mara. These four regions all border Kenya. The West/Centre zone comprises much of the semiarid areas of the country (Mwanza, Shinyanga, Tabora, Singida) augmented by Kagera and Kigoma regions in the northwest. Finally, the Coastal zone is comprised of Coast, Morogoro, Lindi, and Mtwara. Wholesale traders in up-country regions concentrated in intraregional trade but a few are involved in interregional grain trade. Interregional trade takes place between accessible food surplus regions (Iringa, Mbeya, Dodoma, Morogoro, Arusha, and Ruvuma) and Dar es Salaam.

In the early years of the adjustment period (1984 through 1987), the entry in the private grain trade at the wholesale level required considerable dynamism, mobility, and a willingness to take risks. This explains why the average trader in our sample is relatively young (see Table 1). Traders in our sample were generally in their mid-thirties, with the average age being 35. Moreover, looking at the average number of years during which the traders were operating, we observe that traders in three out of four zones have operated on average for less than the overall average of seven years. Thus, wholesale grain trading is a relatively new occupation for many of the traders. This also explains why the average age and number of years of operation in the Northern zone is so much higher than in the other zones. The regions in the Northern zone, and in particular Kilimanjaro and Tanga, have been relatively shielded from actual government enforcement of the official marketing channels. De facto liberalization of the grain trade occurred in most of the rest of the country since the mid-1980s, but had basically been characteristic of the Northern regions since the mid-1970s.

The wholesale grain trade is dominated by men (see Table 2). The current gender bias may be the result of the combined effect of religious and political factors. Islam restricts women's mobility, and women's lesser political power makes it more difficult for them to operate successfully in major parallel trade activities. Currently, the main role of female traders, then, is situated at the retail level. However, in recent years, liberalization has resulted in an increase of entry into the wholesale trade by female traders, even in predominantly Muslim regions such as Tanga.

Most wholesale grain traders do not have educational qualifications above the primary school level (Table 3). However, since the Tanzanian government policy has explicitly biased against secondary education relative to primary

Table 1 — Traders' Average Age and the Number of Years of Operation

Zone	Age	Years of Operation
Big Four	33	6
Northern	41	11
West/Centre	32	6
Coast	37	5
Dar es Salaam	30	5
Total sample	34	7

Source: Computed from survey data.

Note: The zones are constituted as follows. Big Four: Rukwa, Ruvuma, Mbeya, and Iringa. Northern: Tanga, Kilimanjaro, Arusha and Mara. West/Centre: Kigoma, Tabora, Mwanza, Kagera, Shinyanga, Singida and Dodoma. Coast: Morogoro, Lindi, Mtwara, and Coast.

Table 2 — Gender Distribution

	Male	Female	Total
Big Four	8	3	11
Northern	10	1	11
West/Centre	20	3	23
Coast	7	1	8
Dar es Salaam	5	0	5
Total sample	50	8	58

Source: Computed from survey data.

Table 3 — Education

Zone	Level of Education			
	Primary	Technical	Secondary	Other
Big Four	9		2	
Northern	9		1	1
West/Centre	21	1		1
Coast	7			1
Dar es Salaam	5			
Total sample	51	1	3	3

Source: Computed from survey data.

education in general, it is unlikely that the low levels of education found are in any way indicative of traders' preferences for formal education.

SUBJECTIVE EVALUATION OF THE TRADING ENVIRONMENT

Given our interest in the effect of policy changes on traders' behavior on the one hand and the lack of quantitative data concerning crucial parameters of the marketing environment on the other, we decided to collect qualitative recall information from the traders. For instance, we asked traders to give us their impression of the level of competition they faced during each year of operation. A very low level of competition was assigned a numerical value of zero and a very high level of competition was assigned a value of four, and in between we had low, normal, and high; the same ranking applied to other variables. Such questions covered the entire time the trader had been operating. The specific format of the questions that we used had been suggested to us by grain traders themselves during a pretesting of the questionnaire. The questions captured changes in variables that traders thought were crucial. During the interviews, traders generally responded enthusiastically to this format. We present the results in Figures 1, 2, 3, 4, 5, and 6. The figures illustrate the general trends in the marketing environment. A priori, however, one can take issue with the reliability of the data.²

In the beginning of the 1980s Tanzania found itself in a severe economic crisis that had contractionary effects on production. A drought in 1982/83 aggravated the situation. Parallel markets for grain trade were illegal and enforcement was at times severe. From the graphs we can see that the crisis had a significant effect on the evaluation of supply and demand conditions by the traders. From 1980/81 until 1983/84, supply to the parallel grain markets decreases, and purchase prices on these markets increase (see Figure 1). Starting in 1982/83, demand for food grains falls, whereas the sale price of food grains on the parallel market increases sharply (see Figure 2).

It is important to understand the relation between the increase in purchase price from 1981/82 until 1983/84 and the supply situation. First, rainfall was below normal in 1982/83. This reduced total supply and directly affected the purchase price at the producer level through an increase of the relative subsistence value of grain. Second, marketed quantities were affected because of the enactment of economic legislation that banned all parallel market activities. The first reaction of the government to the crisis of 1979 and 1980 had been to postulate that the crisis was the result of an imperfect implementation of socialist policies. The government reasoned that the official institutions of the planned economy needed to be more rigorously enforced, so they vigorously cracked down on the unofficial economy. The crackdown was known as the "War on Economic Saboteurs" and characterized most of the 1982/83 and

² However, one should ask oneself whether one would also immediately discard such qualitative information if the sample would have consisted of, say, the impressions of 53 American businessmen.

Figure 1 — Subjective Evaluation by Traders of Supply Conditions (1980/81-1991/92)

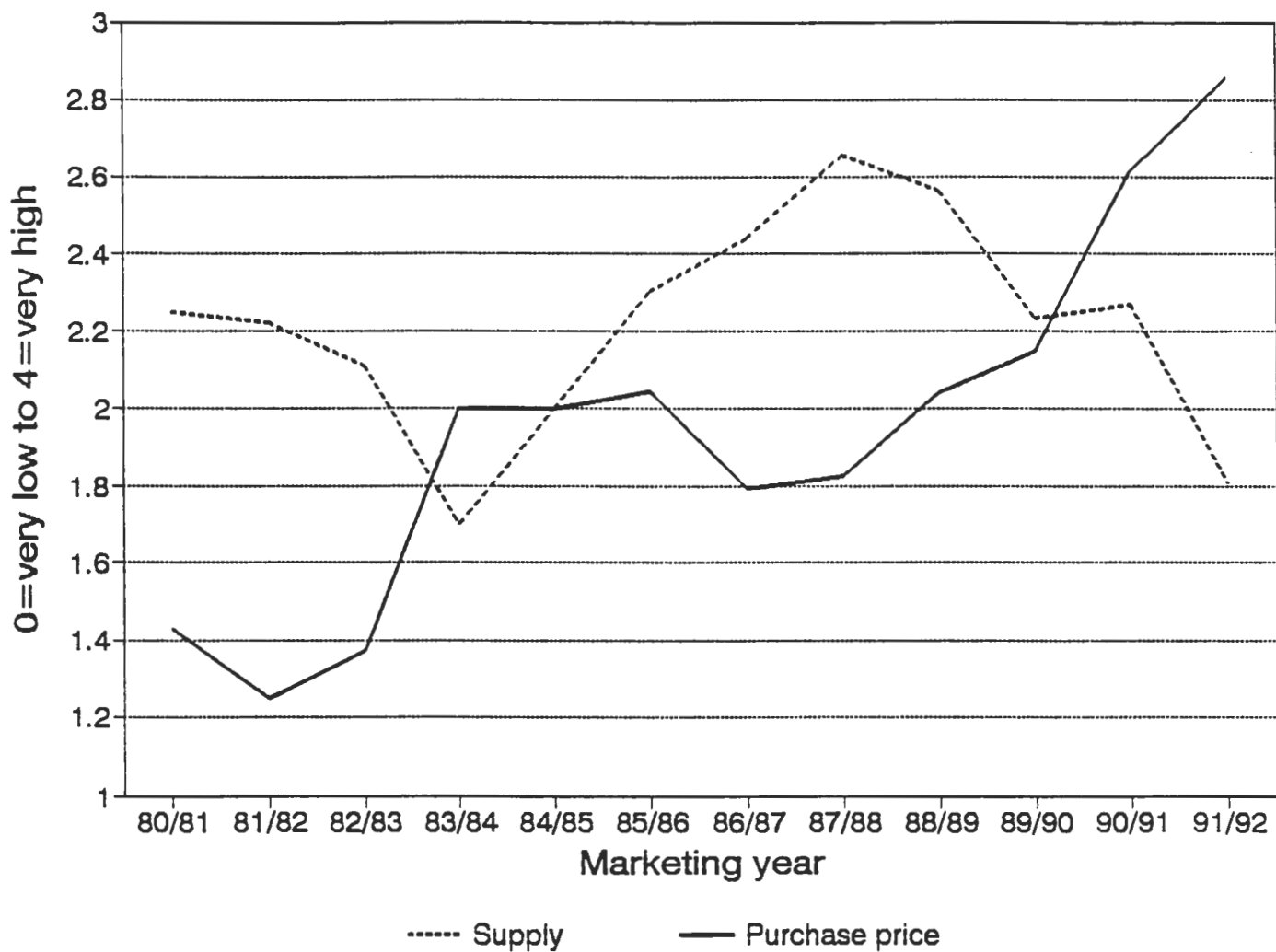


Figure 2 — Subjective Evaluation by Traders of Demand Conditions (1980/81-1991/92)

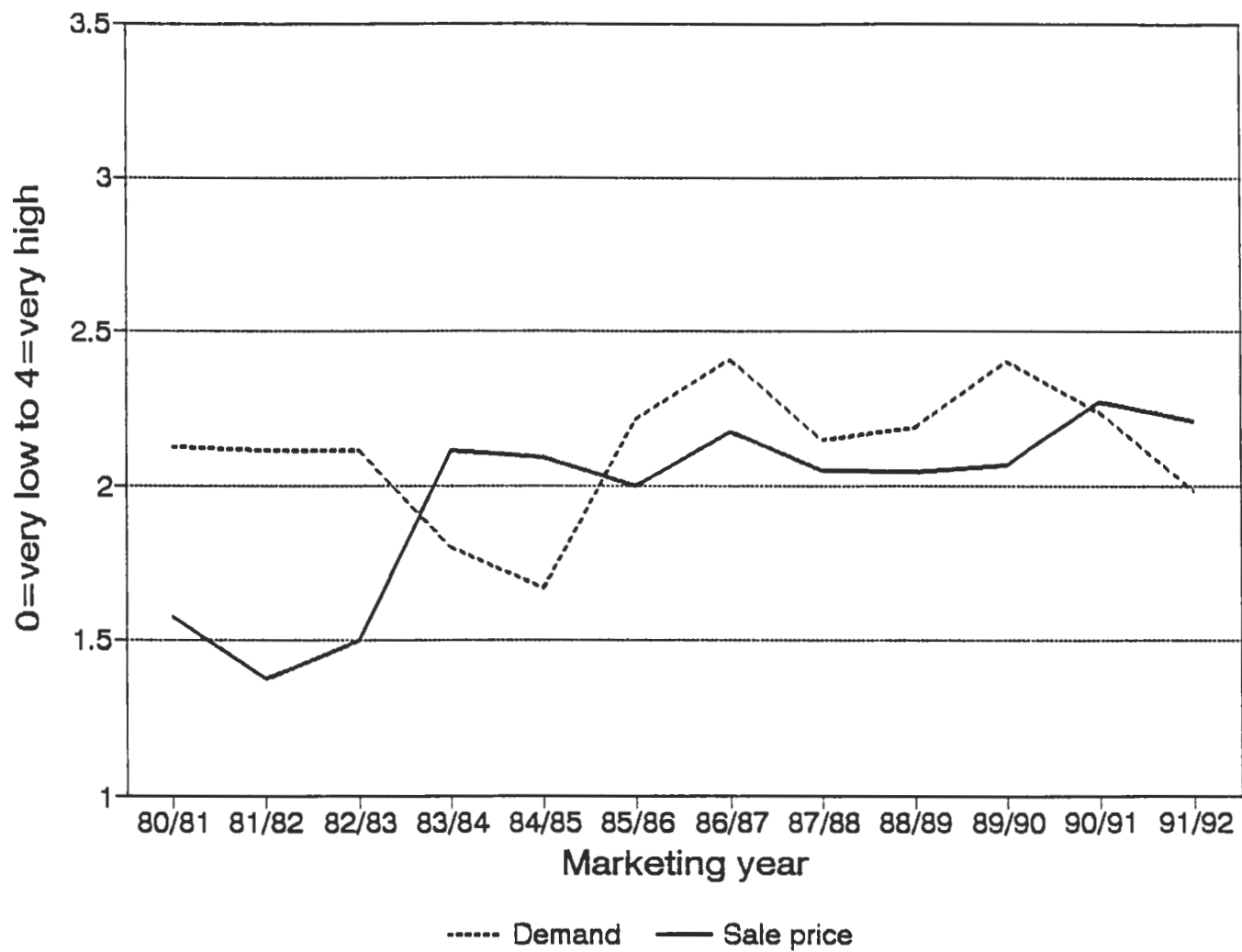


Figure 3 — Subjective Evaluation by Traders of Market Conditions (1980/81-1991/92)

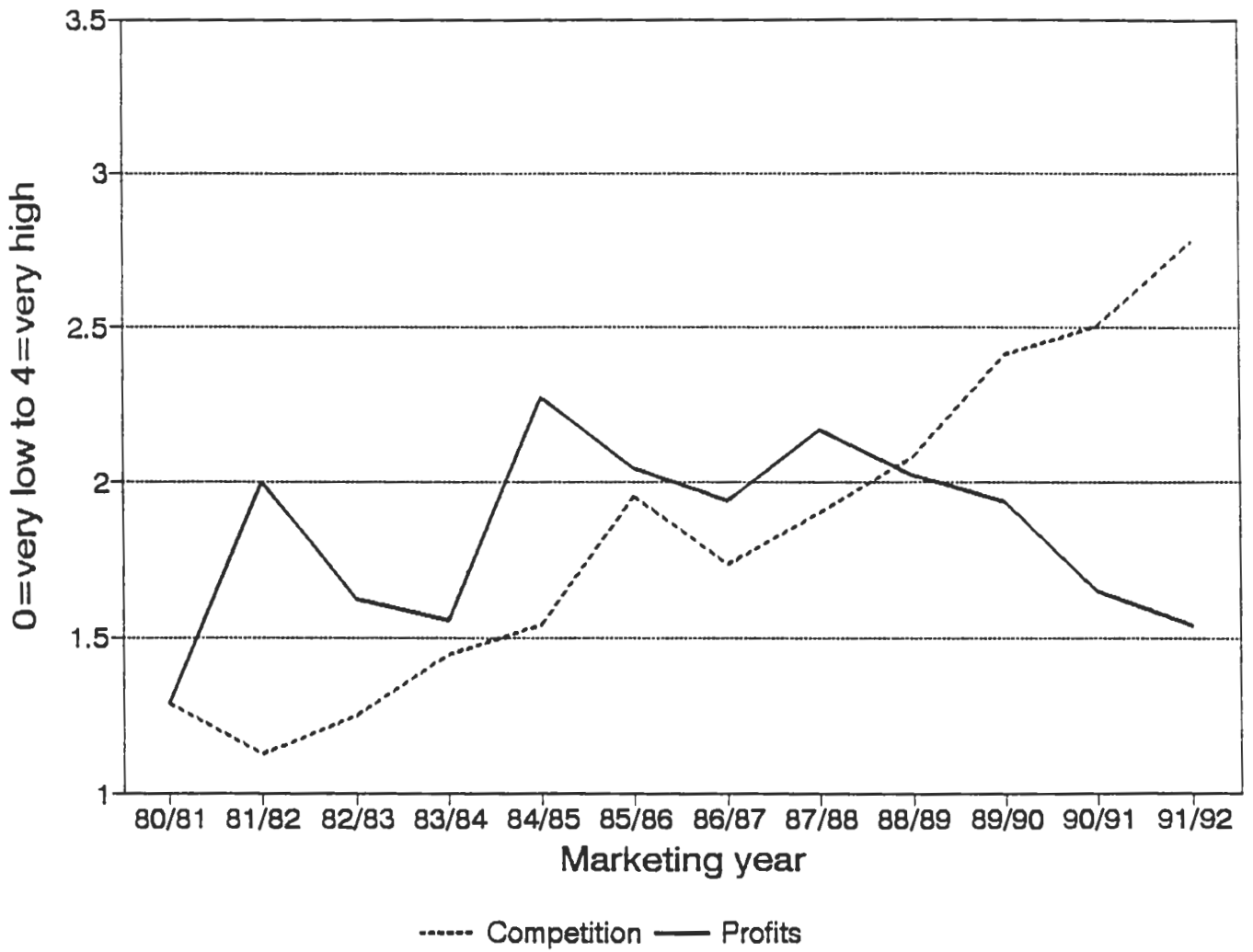


Figure 4 — Subjective Evaluation by Traders of Transport Conditions
(1980/81-1991/92)

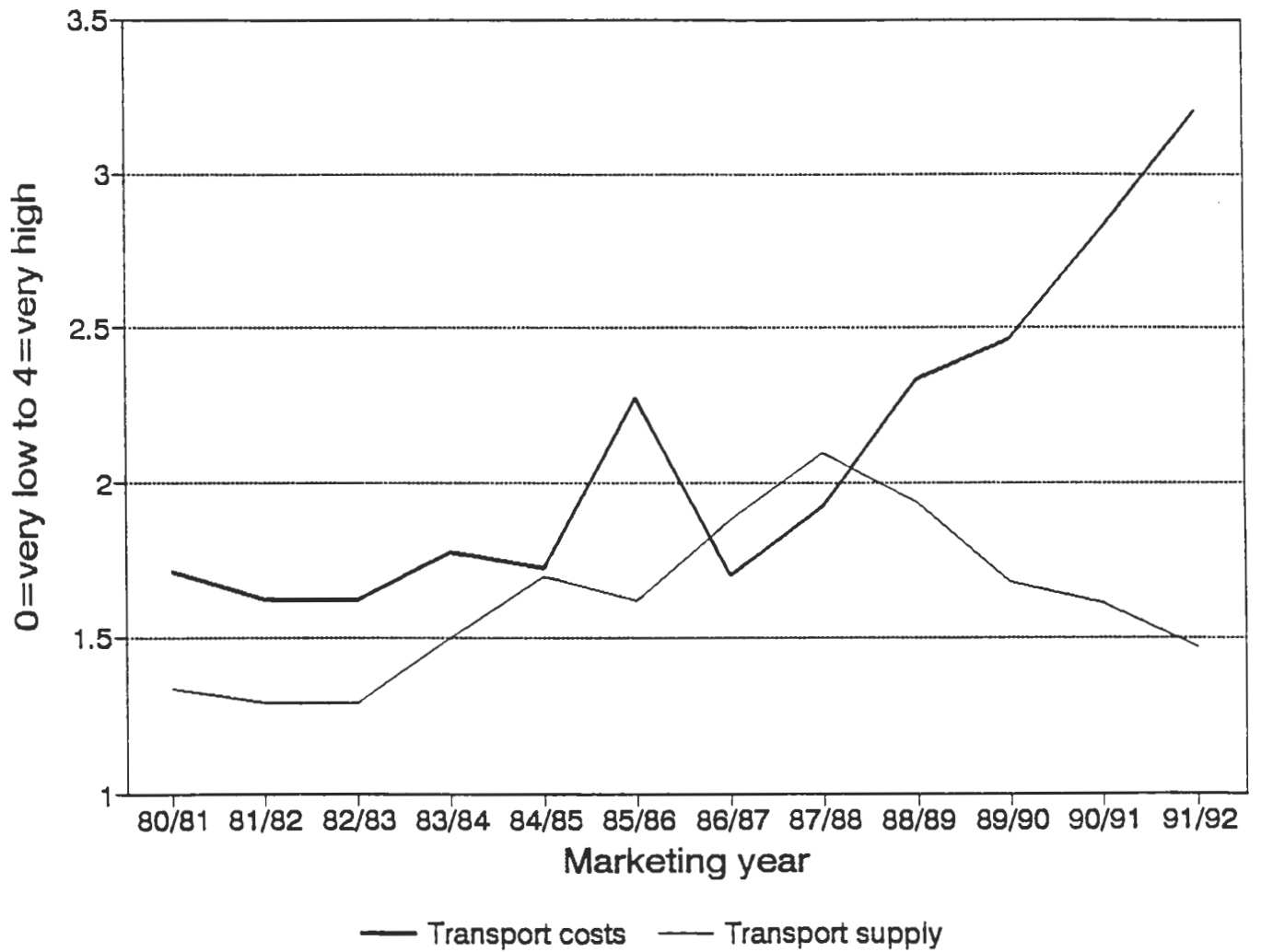
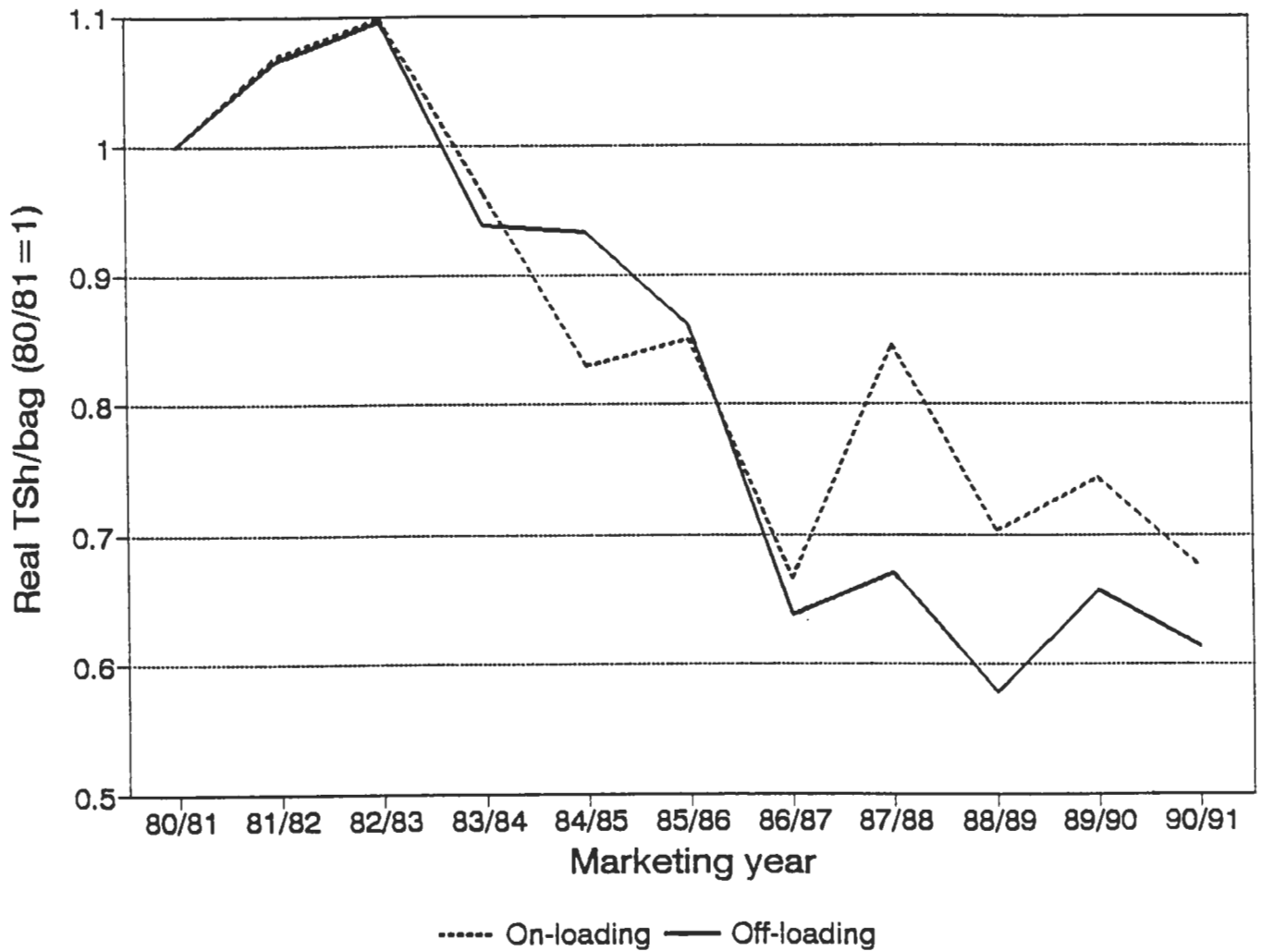
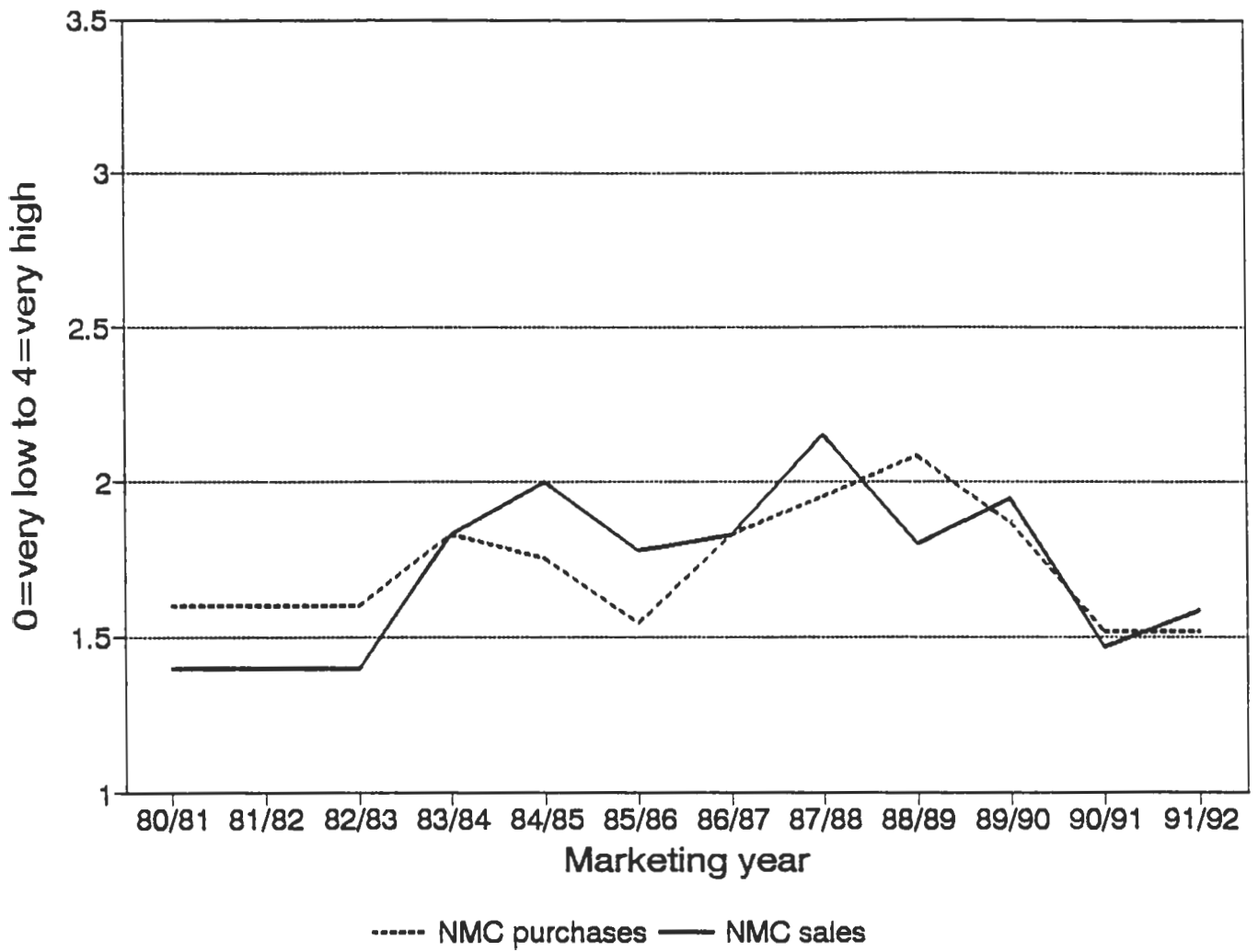


Figure 5 — Traders' Recall of Real Loading Costs (1980/81-1991/92)



Note: Costs are per bag of maize in real terms (CPI deflated).

Figure 6 — Subjective Evaluation by Traders of NMC Purchases and Sales (1980/81-1991/92)



1983/84 seasons. That the crackdown had the effect of raising transaction costs by increasing the risks of the grain trade can be inferred from the decline in trader profits (see Figure 3).

This situation changed in the 1984/85 season, when the crisis forced the government to reevaluate the basic premises of its policies. Grain traders were now allowed to trade up to 500 kilograms at any one time. We observe a number of changes in the trading environment as a result of the change in policy. First, we see an immediate stabilization of the relative purchase price as evaluated by the traders (see Figure 1). Second, even in the presence of stagnant relative producer prices, we see a strong supply reaction (see Figure 1). Third, profits make a quick and steep one-time rise after which they slowly decrease for the remainder of the entire postliberalization period (see Figure 3). The rise in profits just after liberalization probably results from the ability of the traders who were already operating at the time of liberalization, or who immediately entered the market at this time, to exploit the relatively low level of competition. It is obvious, however, from the later trend that such profits gradually fell as competition increased in later years.

Competition among wholesale traders increased throughout the period under consideration (see Figure 3). According to the traders, however, competition was increasing even before liberalization, i.e., before 1984/85. However, the sampled traders who could answer questions on the first half of the 1980s were primarily situated in the Northern part of the country, where government control of the trade was less rigorous than elsewhere. Whereas the reported increase in competition from 1981/82 until 1984/85 was accompanied by an expected decrease in profits from 1981/82 until 1983/84, a temporary upturn in profits took place from 1983/84 to 1984/85, the first years of de facto liberalization. After these years, the makeup of the sample changes, because traders in other regions of the country entered the wholesale trade. The temporarily high profits made in 1984/85 thus attracted more traders, competition increased, and profits consequently fell.

Starting in the 1987/88 season, a more stable economic environment set in. While sale prices stabilized (see Figure 2), purchase prices started an upward trend (see Figure 1). The grain trade now entered a period in which increasing competition between traders at the producer level began to drive producer prices up. This would also explain why traders evaluated relative supply as decreasing in this period (see Figure 1). This hypothesis becomes even more plausible if we take into account that rainfall was above average until 1990/91, a situation which should a priori not be compatible with rising producer prices.

Transport costs, according to the sampled traders, were relatively stable until 1985/86, when they increased significantly³ (see Figure 4). However, they

³ More than 70 percent of total traffic in Tanzania is carried by the road network. The railway is the second mode of transport, but currently of little significance to the transportation of food crops. The total road network is
(continued...)

were temporarily reduced in the next marketing season (1986/87), most likely because of the increase in availability of imports (e.g., spare parts) under the own-funded import scheme that was launched in 1986. After 1986/87, given the stronger devaluations of the parallel market foreign exchange rate that accompanied the devaluations of the official foreign exchange rate, traders felt that transport costs continued to increase in relative terms. Traders state that after 1987/88 they also experienced a reduction in the relative supply of transportation. Transportation continues to be a major bottleneck to grain market expansion, increasing in relative importance as the volume of trade grows.

Figure 5 summarizes trends in real loading costs measured in Tanzanian Shillings (TSh) per bag. Loading costs dropped sharply starting in 1982/83. Such a decrease in the real charges of for on- and off-loading is probably related to an increase of labor supply during the first phase of the adjustment period. The downward trend levels off in the 1986/87 season during which an increase in on-loading costs and a stabilization of off-loading costs is observed. Since on-loading typically takes place in the rural producer areas, whereas the off-loading is situated in the urban markets, such a trend may indicate a relative rise in the scarcity of labor in the rural areas. Such scarcity may point to an increasing profitability of agricultural production in the later phases of adjustment.

The impact of the NMC on the operations of the traders can be gleaned from Figure 6. Interestingly, traders evaluated the competition they experienced from the NMC operations as generally low. There was a slight, but irregular increase in direct competition noticeable since 1982/83, which peaked during the 1987/88 and 1988/89 marketing seasons. Since then, NMC operations have dwindled rapidly.

TRADED VOLUMES AND PRICES

The above impressions illustrate the general changes in the trading environment over the entire decade. In this section we focus on more readily quantifiable parameter changes such as purchase volumes, purchase prices, and sale prices that occurred in the last half of the decade. However, with respect to the quantitative estimates given, a caveat related to the nonrandomness of our sampling method should be made.

³(...continued)

estimated at 82,000 kilometers, out of which 10,000 kilometers are trunk roads. Only one-third of the trunk roads are asphalt-paved, and many of the roads are rundown and unpassable during the rainy season. The size of the trucking fleet was about 18,000 in 1980, but declined by 3.6 percent per annum until 1988. An increase was recorded afterwards, due to measures taken under the Economic Reform Program. Presently, more than 75 percent of trucks are operated by private owners and freight rates reflect market conditions. Trucks operated by the public sector (mainly cooperative unions and regional trading companies) charge regulated, artificially low rates.

We investigate trends for clusters of regions since liberalization can be expected to affect regions differently, given certain differentiating factors such as the agroclimate, population density, and transportation infrastructure. The clusters were defined on the basis of a few general characteristics. Data are for the main food grain in Tanzania, i.e., maize.

In some regions in Tanzania poor roads and the resulting high transportation costs may prevent traders from stepping up their activities. We have grouped such regions under the heading "No Transport." Procurement of grains to the regional capital in this group is typically from within the same region only. Another group of regions has access to a relatively better transportation network and high relative population densities, and they often seem to function as a "hub" for interregional, or even international grain movements. This cluster is somewhat euphemistically labelled "Good Transport." A number of regions produce a considerable maize surplus and have an intermediate quality of road infrastructure. Such regions are grouped as "Surplus and Transport." The Dar es Salaam market is atypical in that although it is the largest consumption center in Tanzania, it is located within a food-deficit zone. Dar es Salaam thus procures most of its food from relatively distant regions.

Tremendous increases in average volumes traded have occurred in the "Good Transport" group (see Table 4). The traders in our sample had increased their volume more than ten-fold within a period of five years. Equally, the traders in the "Surplus and Transport" group as well as the Dar es Salaam market increased the volume traded, although much less dramatically as the previous group. The trade response in the "No Transport" cluster was, as perhaps expected, poor. From 1985/86 until 1990/91 activity levels hardly seemed to increase at all, although the 1990/91 season saw a significant rise in average volume purchased. It should be pointed out that the pan-territorial price system had subsidized the production of maize in the more remote regions. Part of the stagnation observed, then, may be attributed to a simple reversal of an artificially created maize supply in such remote regions.

With respect to nominal purchase prices, we first note that the absolute level of the purchase prices underlines the basic differences between the regional groups. At the beginning of the period under consideration, purchase prices are lowest in the "Surplus and Transport" group and highest in the more densely populated "Good Transport" group. Nominal prices in the "No Transport" group are at an intermediate level. At the end of the period, the "No Transport" group has switched ranks with the "Surplus and Transport" group: it has now the lowest nominal level of purchase prices. Such a trend seems to confirm our hypothesis of a broad geographical restructuring induced by market forces.

The developments after 1985/86 in terms of real price levels are equally divergent. The "Surplus and Transport" group has seen the most encouraging response to the liberalization: real producer prices have increased substantially, probably due to increased competition among traders. The 1990/91 increase might have been exaggerated, however, because of expectations of a drought which in the end did not materialize. In the No Transport group, we see the following pattern: real producer prices initially decreased, then gradually

Table 4 – Maize: Evolution of Average Purchase Volumes and Purchase Prices

Marketing Year	Surplus and Transport			No Transport			Good Transport			Dar es Salaam		
	Purchases (Tons)	Price (TSh/kg)		Purchases (Tons)	Price (TSh/kg)		Purchases (Tons)	Price (TSh/kg)		Purchases (Tons)	Price (TSh/kg)	
		Real (CPI)	Nominal		Real (CPI)	Nominal		Real (CPI)	Nominal		Real (CPI)	Nominal
1985/86	8.4	1.19	7.39	10.0	1.50	8.00	23.0	1.43	24.77			
1986/87	12.1	1.00	8.11	8.0	1.00	7.00	63.7	1.00	22.73	10.2	1.00	6.56
1987/88	25.8	0.94	10.01	10.0	0.87	8.00	59.9	0.85	25.16	15.0	0.99	11.14
1988/89	25.0	1.11	14.95	10.0	0.86	10.00	109.5	0.78	29.61	28.5	1.15	11.06
1989/90	64.4	1.23	20.17	12.0	0.89	12.50	175.8	0.71	32.59	48.8	1.13	16.42
1990/91	47.9	1.59	30.33	15.5	1.00	16.50	301.0	0.68	36.30	61.3	1.39	22.84

Notes: Surplus and transport: Arusha, Mbeya, Iringa, Mara; no transport: Kagera, Rukwa; good transport: Kilimanjaro, Tanga, Shinyanga.

Real (CPI): Deflator is the National Consumer Price Index (1986/87 = 1.00)

returned to earlier levels. We can hypothesize that this trend was caused by changes in the level of competition among traders. Initially, bargaining power may have tilted towards the traders, but increased trader competition shifted the bargaining power back to the producers.

Real purchase prices in the good transport groups decreased during and after adjustment. As already mentioned, the regions in this group (particularly Kilimanjaro and Tanga) function as a hub for interregional trade. Substantial increases in marketed supply seem to have driven purchase prices down.

Dar es Salaam procures most of its maize from relatively distant surplus regions. Thus, the purchase prices quoted follow essentially the trend of the surplus and transport group.

Turning to the consumer side (Table 5), we see that the increase in producer prices was passed on to the consumers in all groups. Especially in the Good Transport group, consumers have benefited in real terms from the increased supply and competition among traders.

We have no direct information on the exact composition of marketing margins: such information is difficult to obtain through a survey. We can, however, compare the relative difference between sale and purchase price over time. The resulting trends are given in Table 6. For all groups, relative margins between sale and purchase price have remained approximately stable. However, since transport costs have continued to increase, profit margins must have been reduced. This would be consistent with the perception of the traders themselves (see Figure 3).

INVESTMENT

The main component of the capital necessary to operate grain trade at the wholesale level is constituted by working capital invested in grain stocks. Given the large increases in average traded volumes most profits made have probably been plowed back into higher working capital outlays.

Given the illegality which still surrounds the trade, one should not expect traders to invest in large and visible permanent structures such as storage buildings. Nonetheless, storage behavior has significantly changed during the period under consideration. Looking at Table 7, we see that storage behavior between 1985 and 1991 has basically changed in one respect: whereas traders used to store a considerable part of their produce in their own house (maybe to avoid too much attention), they have shifted the produce from their house to relatively cheap permanent storage structures and open air storage. Additionally, the average amount of stock at any time has increased considerably (see Table 8). Not only did 41.6 percent of traders in 1991 have grain in stock when they made their last purchase, as opposed to only 16.0 per cent in 1985, the amount in storage at the time of their last purchase increased more than six-fold. At the same time, maximum storage capacity increased by 38 percent (see Table 8).

Table 5 - Maize: Evolution of Sale Prices

Marketing Year	Surplus and Transport		No Transport		Good Transport		Dar es Salaam	
	Real (CPI)	Nominal	Real (CPI)	Nominal	Real (CPI)	Nominal	Real (CPI)	Nominal
	(Price (TSh/kg))							
1985/1986	0.78	6.88	1.11	11.00	1.47	33.86		
1986/1987	1.00	11.53	1.00	13.00	1.00	30.09	1.00	12.27
1987/1988	0.95	14.35	0.93	15.75	0.80	31.34	1.35	21.67
1988/1989	1.19	22.79	0.86	18.50	0.68	34.49	1.23	25.00
1989/1990	1.17	27.25	0.80	21.00	0.67	40.68	0.99	24.55
1990/1991	1.49	40.56	0.82	25.00	0.69	48.98	1.29	36.33

Notes: Surplus and transport: Arusha, Mbeya, Iringa, Mara; no transport: Kagera, Rukwa; good transport: Kilimanjaro, Tanga, Shinyanga.

Real (CPI): Deflator is the National Consumer Price Index (1986/87 = 1.00).

Table 6 — Maize: Evolution of Gross Marketing Margins (1985/86-1990/91)

Marketing Year	(Sale - Purchase Price) / Purchase Price				Total
	Surplus and Transport	No Transport	Good Transport	Dar es Salaam	
1985/86	.19	.38	.42	—	—
1986/87	.44	.75	.34	.95	.59
1987/88	.42	.79	.25	.85	.52
1988/89	.36	.75	.17	1.27	.56
1989/90	.37	.60	.26	.63	.44
1990/91	.34	.56	.40	.91	.52
Total	.36	.66	.29	.90	.50

Note: Simple averages over all traders.

Table 7 — Storage Structure

Year	Own House	Iron Roof, Brick Walls, Cement Floor	Thatched Roof, Mud Walls, Earth Floor	Open Air (Temporary Storage)	Total
	(Count Percent)				
1985	26.9	42.3		30.8	100.0
1991	9.8	40.2	6.1	43.9	100.0

Source: Computed from survey data.

Table 8 — Storage Behavior

Year	Did you have stock remaining at last purchase?		Stock remaining at last purchase	Maximum storage capacity
	(Count Percent)			
	Yes	No		
1985	16.0	84.0	425.00	32,700
1991	41.6	58.4	2,830.47	45,100

To complement our inquiry into investment behavior, we also asked what was called the "TSh 1,000,000" question, or the "\$5,000" question. We asked the traders to indicate to us how they would use TSh 1,000,000 in profits. They had to distribute the full amount over 20 fixed categories. The results are given in Table 9. As expected, 30.1 percent of such profits would be reinvested in working capital, i.e., used to increase the scale of the trade. More permanent business assets would use only 5.7 percent of the profits, whereas real estate (15.4 percent) and farm assets (14.4 percent) are apparently considered desirable investment projects. Note that a relatively high proportion of the profits is saved (28.6 percent). This may indicate that traders may be thinking about investment projects which significantly exceed the \$5,000 level. The often heard argument that trading profits would be spent on more or less "unproductive" investments does not find corroboration in our survey results. Other use categories combined only attract 6.0 of the profits.

Table 9 — Intended Use of Profits

	Sum	Percent
Working capital	30.1	
Buy crops for business		23.3
Buy goods for resale		6.8
Business assets	5.7	
Buy or repair car/van/truck		1.0
Buy or improve storage structures		3.8
Buy or improve processing equipment		.9
Real estate	15.4	
Buy or improve own house		13.7
Buy or improve rental property (house or business)		1.6
Buy other land		.1
Farm assets	14.4	
Buy livestock		4.4
Buy machinery or implements for farm		6.3
Buy farm land		3.7
Savings	28.6	
Keep it in the house		.4
Put it in the bank or the Post Office		27.6
Put it in a rotating savings and credit association		.6
Other	6.0	
Lend it to others		.0
Give it to others		1.1
Buy or repair household durables		1.5
Spend on education and/or training of household or other		2.6
Increase consumption		.8
Total		100.0

5. EMERGING PRIVATE INSTITUTIONS

The de facto liberalization implied a fundamental transformation of the institutional structure involved in grain marketing. Most of the activities of a government-controlled market were replaced by private trade activities, which quickly ensured abundant supplies of food grains at relatively low real prices.⁴

Whereas the trade was a risky one, the entry into this market was relatively unconstrained given the relatively low levels of initial capital needed. For instance, even though the transportation infrastructure in Tanzania is extremely poor, the initial capital needed to enter this market consists basically only of working capital invested in crop purchases. Moreover, since regionally-based traders trade within their region, no substantial capital outlays in transportation or storage assets are needed to enter such markets. In the case of Dar es Salaam, the transportation costs of its interregional procurement of grain are financed by a separate class of traders, i.e., the brokers used by the traders to sell their crop. In other words, even the aspiring long-distance wholesale trader would not need exorbitant amounts of initial capital, which would represent significant barriers to entry.

Capital constraints to entry had been assumed to exist, however. This assumption was often linked to the fear that the retreat of the government from food marketing would result in a new monopolistic domination by Indian and Arab traders, who had dominated this trade before independence. However, this fear proved unjustified. We have not come across a single trader of Indian or Arab descent in our survey, nor have we obtained any information that would lead us to believe that such entry has indeed occurred. Given the absence of such nonindigenous monopolies in the period after adjustment, it might be useful to point out that the preindependence monopolies of the Arab and Indian trading class, where they existed, were official monopolies, i.e., formally granted monopolies of the British government, and not the result of liberalized markets.

In some markets, wholesale traders have begun to establish their own institutions so that they can serve their interests better. For instance, in Tandale, the largest wholesale market in Dar es Salaam, three formal societies have emerged: an association of traders, an association of brokers (madalali),

⁴ In addition, the monopoly of state-owned crop parastatals (such as the National Milling Corporation) on the production and sale of animal and chicken feed has been broken by new, albeit foreign, private institutions. These institutions buy low quality grain from both private traders and parastatal crop bodies and transform it into animal and chicken feed. Entry into this kind of business by indigenous institutions seems to be constrained by lack of initial capital.

and an association of porters. The Madalali Association is a subset of the trader association, i.e., one has to be a member of the traders' association to belong to the Madalali group.

The idea of establishing an association of traders originally came from the CCM (the ruling party) branch in Tandale and in 1987, the Tandale Vegetable Cooperative Society was formed. Since grain trade was still illegal but in practice tolerated, the traders registered as a "Vegetable Association." They were uncertain as to whether the government would register them as a Grain Trading Society. The initial society failed mainly because its leadership was imposed by the local party branch. In 1989, however, a new attempt was made to form an independent cooperative society under the same name. The main function of the society was to bargain for reasonable purchase and sale prices on behalf of its members. The society began with 10 members, evolving to 312 members presently. Out of the current 312 members, 50 are brokers (madalali).

An applicant for madalali has to fulfil three formal conditions before the application is considered. The formal conditions are: one has to be a trader in the Tandale market; one must be at least 18 years old; and one has to pay the application fee of TSh 100. The Society's Central Committee goes through applications and initially selects those who meet the formal conditions. Meeting those conditions is necessary, but not sufficient for final selection. For the final selection, the committee takes into account the existing number of registered brokers and the character and past behavior of the applicant. Upon acceptance as a member of the society, the applicant has to buy five shares of TSh 1,000 each. An initial share of TSh 1,000 must be paid immediately before active participation in brokerage. Thereafter, a broker pays TSh 100 per grain-loaded truck handled by him. The money from these sources is put in the bank. The money is used to assist society members with genuine financial problems. Interest generated from bank deposits is shared among members.

The Tandale Porters Association was registered in 1988. Before that, porters were working as casual employees of large traders. Since they felt grossly underpaid, they decided to form their own organization. The formal conditions for entry into the association are the payment of an entry fee of TSh 120 once the applicant is accepted, and the successful completion of a probation period. Currently, however, the number of members is limited to around 160. Membership had increased from 100 in 1989 to 207 in 1990, before it declined to 157 in 1991; 50 members were discontinued between 1990 and 1991 for various reasons including absenteeism and laziness.

In 1989 a joint meeting of porters and madalalis discussed and fixed loading and off-loading charges. Under this collective bargaining agreement, the charges were fixed differently for different crops as shown in Table 10. These charges have not been revised although preparations are underway to do so. For each bag off-loaded, 30 percent of the income goes to the porters' association while the remaining 70 percent is shared by all members. We have estimated the average daily income per porter from off-loading (Table 11). Interestingly, to compensate for the nominal fixity of the charge per bag — causing a decline in

Table 10 — Collective Bargaining Agreement (1989) with Respect to Off Loading Charges Between the Tandale Porters Association and the Tandale Vegetable Cooperative Society

Commodity	Weight of Bag (kg)	Charge (TSh)
Rice	150	150
Rice	100-110	70
Beans	150	100
Beans	100	40
Maize	100	30
Finger Millet	100	30
Round Potatoes	(1 bag)	50

Source: Tandale Vegetable Cooperative Society.

Table 11 -- Average Daily Income of Porter in Tandale Market

Commodity	1989	1990	1991
Rice	600	1,000	3,000
Maize and other commodities	200	400	2,000

Source: Tandale Vegetable Cooperative Society.

real terms — the number of porters allowed per truck has gone down from 12 in 1989 to 8 in 1990 and to 4 in 1991.

There are no associations of farmers-cum-traders or transporters in open market food marketing. However, the number of farmers involved in grain trading has increased significantly over time. It is estimated that farmers-cum-traders constitute 50 percent of wholesale traders in the Tandale market and a slightly lower proportion in other urban markets.

In summary, it is important to emphasize at this point that even though the legal framework for market reforms does not yet exist, indigenous private institutions have begun to evolve. If the government would actually legalize the private sector grain trade and provide a better environment for trade investment, indigenous trade associations and institutions are likely to mushroom, dealing with a variety of market functions.

6. POLICY RECOMMENDATIONS AND CONCLUSIONS

In order for private traders to operate effectively in marketing of agricultural commodities and inputs, the government has to provide an attractive business environment. Marketing activities of private traders must be legally recognized. As of now, their activities are only tolerated given that the 1962 legislation, which outlawed private traders from involvement in agricultural marketing, has not been repealed. Consequently, traders are sometimes harassed by local authorities. Moreover, traders are concerned about the government's seriousness with respect to full liberalization of food marketing in Tanzania. Due to this uncertainty, private traders are reluctant to invest in fixed and specialized business assets, e.g., storage structures. Storage structures could be built by the government and then leased to traders individually or to genuine trader cooperatives. Traders are presently requesting such investment by the government, but they are under the impression that the government seems reluctant to undertake any activity that might permanently and formally recognize the private grain trade.

The government must address institutional and infrastructural bottlenecks, particularly in the rural areas. These bottlenecks include marketing structures, feeder roads, and weak research and extension systems. Addressing those bottlenecks is crucial for consolidation of the positive impacts of liberalization measures. Perhaps the most immediate infrastructural bottleneck to be addressed is the poor conditions of feeder roads; because of this situation primary marketing appears to be less efficient than secondary marketing as both private traders and primary cooperative societies refrain from trading in remote areas. Coulter and Golob (1991) in a study in Iringa observed that for villages between 15 and 45 kilometers off the main highway the cost for primary marketing (wholesale assembly) ranges between 9 and 40 times the cost of secondary marketing. Hence private traders do not go to such areas to buy. In addition to improving feeder roads, efforts should also be made to improve regional and trunk roads. Currently, poor conditions of these roads have kept transport costs quite high; for interregional trade transport costs per trader as a percentage of purchase price ranges between 37.8 percent for the Morogoro to Dar es Salaam route to 202.6 percent for the Rukwa to Dar es Salaam route (Santorum and Tibaijuka, 1991).

Changing the legal framework under which private traders operate is necessary but may not be sufficient to attract investments in food marketing. Thus in addition to legalizing private traders, reforms in financial institutions are urgently needed to make credit available to traders. Currently, only cooperative unions can get credit for crop purchases. Given the existence of well-organized indigenous trader associations, group-lending schemes seem to hold obvious promise. There is an ongoing exercise to restructure financial

institutions by introducing private banks, among other things. This will go far in addressing credit requirements of grain traders.

Provision of communication infrastructure should also be the responsibility of the government. This calls for an improved communications network so that market information could be disseminated promptly for use by all market participants.

The food market liberalization measures have allowed private traders to engage in all food crops and all agricultural inputs except fertilizer. The main reason for the exclusion of fertilizer is that the government subsidizes the cost of transportation, effectively making fertilizer prices pan-territorial. To avoid distortion of these prices, the government has appointed cooperatives to distribute fertilizer. However, these cooperatives are reluctant to perform this function because it is seldom profitable. The government should therefore decontrol fertilizer prices and liberalize fertilizer markets, increasing economies of scope for grain traders.

In conclusion, private grain traders have improved food supplies, stabilized food prices in urban areas, and provided a market to farmers — particularly in accessible areas. Their profit margins have tended to decline over time because of increased competition. However, de facto food market liberalization has not been followed by formal legalization of or active support for the private sector. The resulting uncertainty depresses investment in fixed assets, particularly storage structures. The government has an immediate opportunity to create and/or lease out storage facilities. Moreover, grain traders are constrained by access to credit: formal channels are not interested in lending to them, whereas no appropriate informal credit institutions seem to exist. Given the substantial increase in transport needs, traders also experience a growing scarcity of transportation, which is reflected in an increase in its real cost. Transport and communications networks can be vastly improved.

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