Cereals Market Liberalization in Mali

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Summary. — This paper analyzes the impact of the process of liberalization of cereal markets in Mali. Most consumers, including food-deficient farmers, and private grain traders have benefited from the liberalization. Efforts to tie the liberalization to a minimum support price for farmers failed because the state lacked the resources to guarantee the support price. Furthermore, the ability of different types of farmers and traders to respond to opportunities created by the liberalization has varied widely, depending on their access to productive resources, improved technologies, information, and credit. Economy-wide constraints, such as the insecurity of contracts and liquidity constraints resulting from the failure of the government to pay salaries on time, have further limited the impact of the liberalization.

1. INTRODUCTION

Since 1981, Mali has been undergoing a gradual liberalization of its economy. By liberalization, we mean a process of removing legal prohibitions to private trade in selected commodities and taking other actions aimed at facilitating the functioning of the private sector, with the objective of placing greater reliance on the market to allocate resources.¹ During the past seven years, the Malian government has significantly reduced legal restrictions on private entrepreneurship, abolished many state enterprises, and restricted the activities of others. The centerpiece of the liberalization program has been the liberalization of cereal marketing, which has occurred under the multidonor-financed Cereals Market Restructuring Project, known by its French acronym, PRMC.

Many observers have hailed the PRMC as a model of how donors can coordinate their activities to induce fundamental economic policy reforms in Africa. The essence of the project involves a pledge by the donors to ship food aid to Mali for several years in order to help supply the urban areas with grain, in exchange for the government’s agreement to abolish the state’s legal monopoly of the grain trade and encourage private sector marketing. This paper analyzes the impact of the cereal market liberalization program on market performance, including the distribution of costs and benefits among various participants in the Malian economy. From this analysis, it provides insight into the nature of the liberalization process that may be more broadly applicable to other countries.

Mali, a landlocked nation in the West African Sahel, is among the poorest countries in the world, with a 1985 per capita GNP estimated at US $150 (World Bank, 1987, p. 202). The physical resource base is diverse, ranging from the Sahara desert in the north (which covers approximately 65% of the country) to wooded savannahs in the south receiving over 1,400 mm of rainfall per year. Rainfed agriculture and livestock production employ the bulk of the population, 80% of which lives in rural areas, with irrigated farming, flood-recession agriculture, and fishing along the three major rivers of the country. Cotton and livestock are the two most important earners of foreign exchange.

Because Mali is so poor and overwhelmingly rural, the performance of the agricultural sector,

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particularly the cereals subsector, strongly influences overall economic performance and the well-being of the Malian people. Approximately 70% of the total calories in the Malian diet comes from cereals. Millet, maize and sorghum (hereafter referred to as coarse grains) are the major rainfed staples, and account for about 85% of the cereal calories. Rice provides the remaining 15%. Most rural residents produce at least some of their own cereal supplies, with the result that only about 15% of total grain production enters the market. In urban areas, consumers devote on average 18–31% of their total expenditures to cereals (depending on the city); hence, cereal prices strongly influence urban real incomes (Rogers and Lowdermilk, 1988). Rice is much more important in the cities than in rural areas, accounting for more than half of the cereal calories consumed in urban areas. Because of the importance of the cereal subsector in the Malian economy, donors and the Malian government have given a high priority in recent years to improving cereal production and marketing.

Grain production in Mali is highly variable due to fluctuating rainfall. This variability, combined with the low proportion of production entering the market, makes market prices and quantities highly volatile. For example, between March 1987 and July 1988 the producer price of millet in the major surplus-producing region of southeastern Mali quadrupled, from 25 CFA/kg to 100 CFA/kg (Figure 1). Over the same period, the retail price of millet in Bamako, the capital city, more than doubled, from 60 CFA/kg to 147 CFA/kg (OPAM, unpublished data). Such instability makes cereal marketing risky, whether carried out by the public or private sector.

Until the mid-1960s, Mali was a food exporter. Since that time, a combination of bad weather and bad policy has slowed agricultural growth. Throughout the 1970s, Mali became increasingly dependent on imported food, much of it in the form of food aid (Dembélé, Dioné, and Staatz, 1986a). Most of the cereal imports have been rice, with imports accounting for approximately half of total rice consumption. Historically, imports of millet, maize and sorghum have been minimal except in years of drought, when maize and red sorghum have been received as food aid.

2. AGRICULTURAL POLICY IN MALI PRIOR TO LIBERALIZATION

At independence in 1960, Mali opted for a radical socialist development path. The Modibo Keita government (1960–68) established a plethora of state enterprises, including state farms, producer cooperatives, and state trading organizations. In 1964, the state created an official grain marketing agency, the Office Malien des Produits Agricoles (OPAM), and granted OPAM a legal monopoly on the grain trade. OPAM sold grain through consumer cooperatives, mainly to government employees, and distributed it directly to public institutions, such as the army and hospitals. Roadblocks were established to inhibit private shipments of grain within the country.

The government fixed official consumer and producer prices for cereals, with the stated aim of achieving three objectives: an increase in rural incomes, provision of cheap cereals to the urban areas, and extraction of a surplus from agriculture to finance state investment in other sectors. These objectives could be achieved simultaneously only if there were rapid growth in productivity in the cereal subsector. Lacking basic investment in research and rural infrastructure, however, cereal productivity gains were not forthcoming. In practice, the goals of providing cheap grain to the cities and extracting a surplus from agriculture dominated, and official producer prices remained low. Because farmers were unwilling to sell sufficient grain voluntarily to the state at these prices, OPAM resorted to forced deliveries and to financing the subsidized consumer price through accumulated deficits.

The Keita government was overthrown in a military coup in 1968, which brought the present leader to power. The new regime of Mali abandoned some of the previous government’s more radical economic initiatives and abolished OPAM’s official monopoly in early 1969. This experiment, however, was short-lived, as OPAM accused private merchants with whom it had contracted for grain of defaulting on the contracts. By the end of 1969, the government reinstated OPAM’s legal monopoly, which continued until the PRMC got underway in 1981–82. In addition, during and shortly after the drought of the late 1960s and early 1970s, the government created, often with strong donor support, numerous state rural development organizations (known as ODRs) to increase crop and livestock production and handle the marketing of these products. For cereals, these organizations served as assembly agents for OPAM (Simmons, 1987).

Even during the Keita regime, OPAM’s monopoly was more fictional than real. Although private trade was repressed, OPAM handled only 20–40% of total grain marketed in the country (Humphreys, 1986, p. 5). Since only about 15% of total production was marketed,
merely 3–6% of total production moved through OPAM at official prices. OPAM's share of marketed rice was much higher than its share of coarse grains, as rice was produced largely in irrigation schemes controlled by the ODRs. The repression of private trade, while not enough to eliminate it, undoubtedly increased transaction costs. In general, the government was more tolerant of private trade during good production years, when supplies were abundant, than during years of shortage. With the 1971–73 drought, OPAM became the main distribution channel for food aid in Mali, a role which it has retained.

by 1976–77, equivalent to three times its annual grain sales (Humphreys, 1986, p. 7).

Donor pressure for cereal market reform mounted during the late 1970s as a result of OPAM's accumulating deficits (which the donors were increasingly reluctant to finance), concerns about OPAM mismanagement, and the perception that OPAM's official monopoly and the system of official prices acted as major disincentives to domestic grain production. In 1978, the Food and Agriculture Organization (FAO) and the major donors commissioned a study, which called for a major overhaul of grain marketing policy in Mali (de Meel, 1978). In response, the government of Mali agreed in March 1981 to a policy reform program aimed at increasing official producer and consumer prices, liberalizing grain trade, and improving OPAM's operating efficiency.

4. THE PRMC REFORM PACKAGE

The Cereals Market Restructuring Project, or PRMC, that emerged from the negotiations between the Malian government and the donors was an attempt to increase gradually the role of the private sector in the grain trade while retaining certain functions for OPAM, such as stabilizing market prices, increasing producer
incentives, and distributing emergency food aid. Initially funded for five years (1981–86), the project has been extended through 1990. As the PRMC has proceeded, many of its initial assumptions have been proven wrong, leading to considerable modification of both its objectives and strategies over the past eight years.

The reforms embodied in the PRMC were based on the idea of using food aid to finance market liberalization. In exchange for a series of promised reforms, 10 major international agencies and donors pledged multiyear shipments of program food aid. The food aid was sold, with the reflow money going into a common fund used to finance specific market restructuring actions agreed to by the donors and the Malian government.5

(a) Objectives of the reform package

The disastrous financial position of OPAM was the proximate cause of the PRMC. In pushing for market restructuring, the donors were first and foremost concerned with scaling down the public subsidies going to OPAM, both through a reduction in consumer subsidies and an improvement in OPAM management. Longer-term benefits were also expected, however, both at the trader and producer levels. For traders, potential benefits included a reduction in transaction costs, as private merchants no longer would be forced to operate clandestinely. This, in turn, was expected to lead to an increase in the scale and degree of specialization in traders' operations, thereby reducing marketing costs (Berg, 1978, pp. 165–169; Wilcock, Roth, and Haykin, 1987). Reducing the risk of trading cereals would stimulate entry into cereal marketing, thereby increasing farm-level demand and hence farmers' incentives to produce cereals for the market. Eliminating restrictions on interregional grain shipments would allow equilibration of supply and demand over space, thereby helping eliminate localized gluts and shortages. This, in turn, would contribute to a more stable market, thereby encouraging greater private investment in grain production and marketing.

The potential effects of the liberalization on consumers were seen as mixed. In the short run, at least, the previous clients of OPAM (primarily urban government employees) stood to lose their source of subsidized grain as official prices drew more in line with open market prices. During the first five years of the PRMC, however, the program called for OPAM to continue to sell grain to key public institutions, such as the army, which were expected to continue to patronize OPAM because the grain board allowed them to buy grain on credit. The availability of grain on credit was particularly important during periodic government fiscal crises, during which the state often failed to pay its employees on time. The availability of OPAM cereal on credit allowed government employees to survive these crises while reducing the political costs to the state of failing to meet its payroll on time. In this sense, increasing OPAM indebtedness had historically financed much of the government deficit (Humphreys, 1986). While OPAM's previous clientele stood to lose from the reforms, donors expected the majority of consumers, who had to rely on the parallel market, to benefit from the decreased marketing margins. These consumers were seen as almost entirely urban, as most observers assumed that most rural residents were self-sufficient in grain.

(b) Specific actions and underlying assumptions

The first phase of PRMC, which ran from late 1981 through 1986, did not propose a full-scale retreat of the public sector from the cereals market and pure reliance on the market to set prices and allocate supplies. Rather, the proposed reforms called for limited participation of the private sector in allocating grain supplies, within the framework of official prices and licensing requirements. The program had three elements (Dioné and Dembély, 1987, pp. 8–9; Steffen, Dembély, and Staatz, 1988, pp. 1–2): (i) Raising official producer and consumer prices of grain. This was intended to align official prices more closely with parallel market prices (including prices in neighboring countries) in order to reduce clandestine exports and the level of consumer subsidies supported by OPAM; increase farmers' incentives to produce cereals for the market; and raise rural purchasing power, thereby stimulating the rest of the rural economy. (ii) Abolition of OPAM's legal monopoly and the legalization of private trade in cereals. Initially, only private marketing of coarse grains was allowed, with the state retaining its monopoly marketing rights on rice as well as the authority to regulate imports and exports.6 (iii) Improvement of the operational efficiency of OPAM. OPAM was given a "new mandate," which included some of its old functions, such as supplying public institutions with grain and distributing food aid. In addition, it was ordered to maintain a national
security stock of grain for use in times of drought and to engage in buffer stock operations in order to keep producer and consumer prices near official levels. At the same time, OPAM was ordered to cut its costs substantially.

The authors of the PRMC had very little empirical information in 1981 on the structure of cereal production and marketing to guide them in the design of the project. For example, the only time series on market prices of cereals (as opposed to official prices) existing in the country was for retail prices in Bamako. Without any farm-level or rural market price series, it was impossible to measure how the previous government price policies had affected merchant and farmer incentives. There were no baseline figures against which to measure the impact of liberalization. Lacking such information, the program was designed on the basis of several assumptions that seemed reasonable at the time, but have proved to be largely incorrect:

(i) Mali would continue to experience cereal deficits. This assumption had two implications: official prices, if not raised, would always lie below open market prices; and food aid would continue to be an appropriate mechanism to fund reforms.

(ii) Official producer prices matter. The PRMC program assumed that raising official producer prices would increase farm-level incentives to produce cereals. This, in turn, assumed that official prices were closely related to the prices farmers actually received for their cereals (which was true for rice produced in government-controlled irrigation schemes, but much less true for coarse grains), and that farmers had the capacity and willingness to expand production in response to higher prices.

(iii) Most farmers are net sellers. The PRMC called for higher producer prices to increase production and raise rural incomes. Higher grain prices were seen as uniformly helping farmers, since farmers were assumed to be net sellers of cereals.

(iv) Private traders would respond quickly to the opportunities opened by liberalization. The designers of the PRMC assumed that the major constraint on private grain traders was the anti-merchant policies of the state. Once these were lifted, private traders would rapidly fill the vacuum left by OPAM’s relinquishing of its official monopoly. This assumed that traders would accept the reforms at face value and rapidly invest in expanding their operations. It also assumed that traders faced few other constraints in expanding their operations, such as lack of working capital.

(v) OPAM should continue to exist. The donors agreed to maintain OPAM because there was a need to have a Malian government institution through which they could channel food aid. They also recognized the political necessity of protecting certain of OPAM’s privileged clientele, such as the army, from higher grain prices. These factors explain the apparent paradox that most of the actions undertaken during the first five years of the PRMC were aimed at strengthening OPAM rather than the private sector.

The experience since 1981 has shown that all these assumptions, with the exception of (v), were to some degree incorrect. As the assumptions were proven wrong, donors and the Malian government were forced to modify the design of the reform program.

5. ACHIEVEMENTS OF THE PRMC

This section describes the achievements of the PRMC during its initial phase (1981–86), the constraints encountered, and the subsequent modifications of the program to deal with those constraints.

(a) Impact on OPAM

Ironically, during the first phase of the liberalization program, most of the PRMC’s financial and technical assistance was devoted to improving the financial performance of OPAM, not the private sector. During the period 1981–86, OPAM received, directly or indirectly, 67% of the CFAF 12.3 billion (US $141 million) food aid reflow money generated by the PRMC, along with considerable donor technical assistance (Table 1). Access to these funds allowed OPAM to pay off some of its debt, thereby substantially reducing annual debt-service costs. OPAM launched a cost-cutting drive, and over this period slashed its total personnel by 59.6% and reduced its truck fleet by nearly two-thirds. Total personnel costs did not fall, however, as most of the dismissed employees were low-wage temporary laborers, and during this time OPAM hired additional, better-trained, managerial employees.

The PRMC technical assistance, combined with OPAM’s better-trained staff, led to a significant reduction in OPAM’s deficit. Inventory management improved dramatically, as annual storage and theft losses of grain fell from
about 12% in 1981-82 to 2.5% for domestically purchased grains and 5% for imports in 1985-86. Better forward planning reduced grain shipments between regions. Finally, the widening of the wedge between official producer and consumer prices mandated by the PRMC reduced the consumer subsidies that OPAM was forced to absorb. As a result of all these actions, OPAM's annual operating deficit fell from CAF 2.6 billion in 1981-82 to CAF 833 million in 1985-86 (Dioné and Dembéle, 1986b; Dioné and Staatz, 1987).

The efforts to improve OPAM's financial position were facilitated by the relatively poor harvests during three of the first four years of the program (1981-85). Because of the short crops, parallel market prices remained above OPAM's official buying prices, which reduced the volume of domestic production OPAM was obligated to handle. OPAM met its supply obligations by selling an increasing volume of food aid, which the donors provided in order to finance the PRMC. Food aid shipments during this period more than tripled, increasing from an annual average of 38,000 tons in the period 1978-81 to over 125,000 tons during the period 1981-85 despite an increase in domestic production (OSCE. 1988, pp. 17, 27).7

OPAM's financial situation changed dramatically in 1985-86, a year of record harvests, when coarse grain production rose 44% compared to the previous year (OSCE, 1988, p. 17). OPAM was ordered to defend, through buffer stock purchases, the official producer price for coarse grains of 55 CFAF/kg. Because the official price was considerably above the open market price, wholesalers were eager to sell to OPAM. With PRMC funds and commercial bank credit, OPAM purchased 82,900 metric tons of cereals between December 1985 and February 1986, when it ran out of money. These purchases represented approximately 28% of marketed surplus and in absolute terms were the largest volume ever handled by the state marketing system. OPAM's actions succeeded in holding the rural market price of coarse grains near the official level for three months, but as soon as OPAM withdrew, prices plunged. Maize prices, for example, which in January 1980 stood at 51 CFAF/kg in southeastern Mali, fell to 28 CFAF/kg by June, when prices would normally be rising sharply as the "hungry season" approached (Figure 1).

OPAM was constrained to resell its grain at the official consumer price, which in early 1986 stood several CFAF/kg above the open market price.

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Table 1. Allocation of PRMC food aid reflow funds (CFAF million, 1981-82 – 1986-87)

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<td>OPAM deficit coverage</td>
<td>452.0</td>
<td>195.0</td>
<td>408.0</td>
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<td>OPAM (Misc.)</td>
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<td>1,161.5</td>
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<td>Public sector imports</td>
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<td>1,211.0</td>
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<td>-OPAM</td>
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<td>—</td>
<td>244.2</td>
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<td>—</td>
<td>2,945.4</td>
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<td>-ON*OPAM</td>
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<td>896.0</td>
<td>539.2</td>
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<td>-ORS* &amp; ORM*+OPAM</td>
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<td>600.0</td>
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<td>Office du Niger</td>
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<td>—</td>
<td>152.0</td>
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<td>regulation through OSRP§</td>
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<td>397.0</td>
<td>550.0</td>
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<td>Private trader credit</td>
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<td>—</td>
<td>500.0</td>
<td>500.0</td>
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<td>Farmer coop. credit</td>
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<td>—</td>
<td>—</td>
<td>500.0</td>
<td>500.0</td>
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<td>Total funds available</td>
<td>875.4</td>
<td>2,840.5</td>
<td>3,567.3</td>
<td>2,607.3</td>
<td>1,815.4</td>
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<td>Total funds used</td>
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<td>195.0</td>
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<td>100.0</td>
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<td>100.0</td>
<td>100.0</td>
<td>64.9</td>
<td>91.9</td>
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<td>-OPAM's direct share (%)</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>72.6</td>
<td>71.4</td>
<td>25.3</td>
<td>66.6</td>
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<td>OPAM's debt</td>
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<td>21,019.0</td>
<td>6,834.0</td>
<td>6,545.0</td>
<td>10,305.0</td>
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<td>OPAM's interest costs</td>
<td>488.0</td>
<td>466.0</td>
<td>450.0</td>
<td>22.0</td>
<td>211.0</td>
<td>n.a</td>
<td>n.a</td>
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*ON = Office du Niger, †ORS = Opération Riz Ségué, ‡ORM = Opération Riz Mopti, §OSRP = Office de Stabilisation et de Régulation des Prix
OPAM’s traditional clients quickly shifted to the private trade for their grain supplies, and as a result, most of OPAM’s working capital was tied up in unsold grain stocks. Total OPAM sales and food aid distributions fell from 153,505 tons in 1984–85 to 43,122 tons in 1985–86 (OSCE, 1988, p. 29). Lacking sales revenue, OPAM was unable to repay its creditors.

OPAM’s problems grew worse when the following year’s harvest exceeded the 1985–86 level by about 4% (OSCE, 1988). Because OPAM had not reimbursed its previous credit, the Central Bank refused to authorize additional commercial loans to the grain board, and the ODRs that had purchased grain for OPAM during the previous year (and had not been reimbursed) refused to make additional purchases. The PRMC donors extended emergency funding to allow OPAM to purchase 10,000 tons of coarse grains for the national security stock, but no attempt was made to defend the official producer price. The abundant harvest, combined with low-priced rice imports and heavy carry-over stocks, led to very low prices. Millet and sorghum prices in major assembly markets of Mali fell to 20–25 CFAF/kg by February 1987, and maize prices fell as low as 17 CFAF/kg (Figure 1; see also Dioné and Staatz, 1987, Table 5).

The succession of two good harvests in a row demonstrated the inability of OPAM, given its limited resources, to support farm prices significantly above their equilibrium level. This led to the state redefining the role of OPAM in 1987 and abandoning the concept of official prices for coarse grains. Beginning in November 1987, OPAM’s activities were restricted to: (i) management of the national security stock; (ii) management and distribution of food aid; (iii) taking actions to help assure adequate food supplies in chronically food-deficient areas, such as the northeast; and (iv) developing and maintaining a market information service (Steffen, Dembébé, and Staatz, 1988, pp. 4–7). The government agreed to sell off its market stabilization buffer stock by November 1988, retaining only the national security stock.

The experience of 1985–86 and 1986–87 also called into question the concept of financing market reform entirely through food aid. During these years of depressed market prices, importing additional food aid would have simply pushed prices even lower. Consequently, several donors, including the United States, began to replace some of their food aid contributions with cash.

OPAM’s financial situation improved in 1988 because of a mediocre harvest in 1987–88. Preliminary estimates are that the coarse grain harvest was 14% below that of 1986–87, while rice production was 20% lower. The reduced production, combined with a ban on rice imports in early 1988 (imposed in part at the urging of the PRMC donors) led to sharply increasing prices, which allowed OPAM to sell off most of its commercial stocks.

(b) Impact on private trade

The initial actions of the PRMC with respect to market liberalization were aimed primarily at removing the legal barriers to the private sector’s participation in the market. These included the abolition of OPAM’s legal monopoly and the removal of roadblocks that restricted grain transport within Mali. Other than removing these legal barriers, few actions were taken in the initial years to facilitate private sector marketing.

It is difficult to establish with precision the impact of the liberalization on private trade due to the absence of reliable data on the structure of this trade prior to 1981. Wholesalers report, however, that the liberalization stimulated entry into grain marketing. A survey of 118 grain wholesalers in four major cities in 1985 revealed that 39% had entered the trade since the liberalization. The figure ranged from 51% in the capital city of Bamako to 27% in Mopti, a major redistribution market for the food-deficient northeast (Mehta, forthcoming). A survey conducted in 1988 found that 58% of the new entrants were semi-wholesalers, engaging in both wholesale and retail operations, while the remaining 42% were large-volume wholesalers (Mehta, forthcoming).10 The larger-volume new entrants were often merchants who previously had traded general merchandise and who had branched out into grain trading once it became legal.

Longtime grain merchants also report an increase in specialization and scale of operations, and a reduction of risk premiums demanded by merchants.11 For example, prior to liberalization it was standard practice among wholesalers in the producing zones to ship grain in small lots (e.g., one ton) in order to avoid detection by the authorities and minimize losses in case of confiscation. Similarly, storage was dispersed to avoid detection. With the legalization of the trade, transport and storage could be conducted openly, allowing traders to benefit from scale economies. Grain is now routinely shipped between the producing zones and Bamako in 30-ton trucks.

The changing role of OPAM also created new opportunities for grain wholesalers, initially as
suppliers to OPAM when the grain board entered the market in an attempt to support the producer price in 1985–86, and later as suppliers to OPAM’s traditional clients. During its buying campaign in 1985–86, OPAM bought under contract from large wholesalers, who in turn assembled grain either from other wholesalers or directly from farmers. Once OPAM’s traditional clients, such as public institutions and consumer cooperatives, began abandoning the grain board in 1986 when its prices rose above open market prices, many wholesalers contracted to supply these organizations.12

Nonetheless, several factors have constrained the ability of most wholesalers to respond fully to the opportunities created by the liberalization. The most important constraints have been a shortage of working capital, a lack of political “connections,” and the riskiness of the trade.

(i) Liquidity constraints

An expanded role for private grain merchants necessitates an expanded supply of working capital to finance purchases and inventories. In surveys of wholesalers in four major cities in 1985 and 1986, traders identified a lack of working capital as the single largest barrier to entry in the grain market, and 63% of them also cited it as the largest constraint to expanding their businesses (Mehta, forthcoming; Table 4.19; Dioné and Staatz, 1987, p. 10). The liquidity constraint became extremely severe during 1986–87, when slumping cotton and livestock prices reduced export revenues and contributed to a government fiscal crisis. The government fell several months behind in its salary payments. Consequently, cereal merchants were increasingly forced to sell grain on credit to civil servants. Thus, at the time of the record harvests of 1986–87, traders found most of their working capital tied up in consumer credit. This limited their ability to buy grain from farmers, thereby contributing to the collapse of farm-level prices.

The PRMC donors responded to this situation by establishing a CFAF 500 million (US $1.7 million) credit fund for private traders, administered through the commercial banks and the Chamber of Commerce. The program encountered a number of implementation problems (Dembélé and Steffen, 1987; Scott, 1988). Loan procedures were complicated, and as a result only 16 wholesalers in the country received credit, 10 of whom were resident in Bamako.13 The loans went almost exclusively to members of the Chamber of Commerce, which mainly represents older, well-established merchants, not the recent entrants into the grain trade. One individual received 20% of the total amount disbursed under the program. Moreover, only 5,170 tons of cereals were purchased under the program, out of a total harvest of 1.7 million tons. Most recipients reported that the loans, which carried an interest rate of 8.5%, simply replaced other loans that they would have obtained from different sources at a higher rate of interest (Scott, 1988, pp. 3–6; Mehta, 1988, p. 2). The PRMC donors redesigned the program for 1988–89 to try to address some of these problems. Preliminary indications are that the 1988–89 program is covering many more traders and village cooperatives than in earlier years and has helped maintain farm-level prices at remunerative levels despite record production.

The wholesalers’ credit crisis worsened in 1988. The government’s fiscal crisis, which continued unabated, combined with rising grain prices to cause numerous consumer cooperatives and buying clubs to default on credit owed to grain wholesalers in Bamako. This led many merchants to stop selling on credit, making it increasingly difficult for civil servants to obtain their basic staples. Consequently, there is mounting pressure on the government to reassign OPAM its old role of supplying public employees with grain.

(ii) Lack of political connections

In Mali, as in many countries, personal contacts are extremely important in gaining access to opportunities created by changing government policies. The access to PRMC trader credit discussed above is one example. A second was access to OPAM sales contracts in 1985–86. Because OPAM was buying grain at an official producer price that was considerably above the open market price, obtaining a contract to supply OPAM was very lucrative. These contracts were not awarded by an open bidding process, however. Of 32 persons identified in Bamako as having contracts with OPAM in 1986, only six were full-time cereal merchants. The others were “part-timers” (merchants of other products, civil servants, transporters, etc.) who, through their contracts with key individuals, were able to obtain OPAM contracts. These part-timers then sub-contracted with “regular” cereal merchants to obtain the grain (Dioné and Dembélé, 1986b, p. 12). The PRMC donors have since called on OPAM to move to a bid and tender system, but OPAM resisted until late 1988, citing the high transaction costs of dealing with many small merchants. In November 1988, however, OPAM did institute open bidding for contracts to supply grain to the national security stock. This process appears to have greatly reduced political influence in the awarding of OPAM contracts.
(iii) Risk

Traders rank various types of uncertainty as the second most important barrier to entry into the cereal trade (Mehta, forthcoming, Table 4.19). Three kinds of risk have particularly limited the response of the private sector to the liberalization: demand and supply instability, regulatory uncertainty, and the unenforceable nature of contracts.

The price instability generated by the thinness of the market and vagaries of the weather is graphically illustrated in Figure 1. Such instability makes long-term storage and other types of long-term investments very risky. Consequently, few cereal merchants in Mali engage in long-term storage. This reluctance to make long-term investments is exacerbated by traders’ continuing uncertainty about the future of the liberalization program, the rules under which merchants can legally operate, the conditions under which OPAM will release stocks, and timing of free food aid distributions. In the current period of regulatory flux, merchants report continued harassment from agents of the economic police, who allege that traders are not meeting all the legal requirements of the trade. In an effort to improve the situation, in 1988 the PRMC donors funded the creation of a market information system, whose aim is to collect and diffuse not only price and quantity information but information on the regulations governing the trade, planned food aid distributions, and the levels of OPAM stocks, as well (Dembélé and Steffen, 1988).

A third source of uncertainty derives from the fact that Malian contracts often cannot be enforced. Most contracts are oral and based on personal trust, but if violated are very difficult to adjudicate. In the pre-liberalization era, when the private trade operated clandestinely, trading was based on close personal and kinship relationships, which had their own informal contract enforcement mechanisms. With the liberalization, many new traders entered the market and the volume of trade increased. Many of the new entrants lack close links with others in the trade, which has led to difficulty in establishing and enforcing contracts with them. Historically, informal contracting has been particularly important in grain assembly, as urban wholesalers have extended credit to rural assembly merchants. Most traders report that in cases of contract dispute, they make little use of the courts, as litigation is extremely slow and uncertain.

(c) Impact on farmers’ incentives

The effort to raise producers’ incentives through a program like the PRMC raises three questions: the feasibility of raising prices given the limited resources of the state, the desirability of doing so from an equity perspective, and the capacity and willingness of farmers to respond to higher prices by expanding cereal production.

(i) Feasibility of raising prices

Because the PRMC was initially designed during a period of relatively low domestic grain production, when parallel market prices were substantially above official prices, it was perhaps natural to assume that a move toward liberalization would automatically lead to higher farmgate prices. The experience of 1985–86 and 1986–87 graphically demonstrated, however, that weather, more than any other factor, is the prime determinant of cereal prices in Mali. The record production, combined with the thinness of the market (in part due to the lack of liquidity among private traders), led to the collapse of farm prices, as shown in Figure 1. Even with substantial external funding, OPAM was unable to hold farm prices near official levels for more than three months out of 24. More success might have been achieved by banning rice imports, thereby generating greater demand for domestically produced cereals. Political considerations, however, militated against restricting the supply of rice, which is the most important staple in urban areas, during a period when civil servants were not being paid on time. Recognizing its inability to support farm prices through buffer stock operations, the government abandoned the concept of official prices for coarse grains in November 1987.

(ii) Desirability of raising prices

Cereal prices in Mali, as in most developing countries, play a dual role: they act as incentives to farmers and as major determinants of the real income of consumers. Higher prices may be necessary, at least in the short run, to induce increased cereal production; yet this imposes a heavy cost on low-income consumers. Timmer, Falcon, and Pearson (1983) term this “the food price dilemma” and argue that it constitutes the crux of food policy.

The designers of the PRMC recognized the potential conflict between politically powerful urban groups, such as civil servants, and farmers over the issue of raising prices. Consequently, the PRMC initially called only for a reduction, not an elimination, of OPAM’s role in providing grain to certain favored clientele groups. The PRMC advocates believed, however, that the potential food price dilemma involved only a conflict between rural and urban interests. The
vast majority of rural Malians were assumed to be net sellers of grain, so that raising prices would benefit the rural majority at the expense of the urban minority. Increasing the price of cereals was viewed as a way of directly augmenting the incomes of the vast majority of the rural poor, thereby stimulating the entire rural economy.

Research carried out beginning in 1985 called this assumption into question (Table 2). The data indicated that in the CMDT and OHV zones of southern Mali, which produce most of the marketed surplus of coarse grains in the country, only 53% of farm households were net sellers of coarse grains during the record production years of 1985–86 and 1986–87, while 43% were net buyers. Furthermore, net sales were highly concentrated, with 16% of the farm households accounting for 75% of total net sales. These figures are similar to those reported for several other African countries (Weber et al., 1988, Table 1).

The data further indicated that most of the marketed surplus was produced by farmers located in the southern part of the cotton-producing CMDT zone who were also heavily

<table>
<thead>
<tr>
<th>Zones/subzones and level of animal traction equipment</th>
<th>Percent of farm households with Net sales</th>
<th>Percent of farm households with Net purchases</th>
<th>Average transactions per farm household Sales (kg)</th>
<th>Average transactions per farm household Purchases (kg)</th>
<th>Average net sales per farm household Kilograms</th>
<th>Percent of production</th>
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<tbody>
<tr>
<td>South-CMDT</td>
<td></td>
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<tr>
<td>Equipped farms</td>
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<td>-5</td>
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<td>206</td>
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<tr>
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<td>151</td>
<td>-103</td>
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</tr>
<tr>
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<tr>
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<td></td>
</tr>
<tr>
<td>Total OHV</td>
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<td>28.3</td>
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<td>124</td>
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<td>6</td>
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<tr>
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<tr>
<td>Total North</td>
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<td>-184</td>
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<td></td>
</tr>
<tr>
<td>Equipped farms</td>
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<td>42.9</td>
<td>273</td>
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</table>

Source: CESA/MSU, unpublished data.
engaged in cotton production and had a full allotment of animal traction equipment.\textsuperscript{17} Therefore, raising cereal prices would benefit roughly half of the farmers in the cereal-surplus zones (with the bulk of the benefits accruing to the minority of producers who are heavy net sellers of cereals), while harming, at least in the short run, the 43\% of farmers who are net buyers.

The figures in Table 2 refer to two years of record grain production in the two areas of Mali that produce most of the country's marketed surplus. Presumably, in years of poorer production and in the more grain-deficient regions of the north, the benefits of higher grain prices would be even more skewed. A consumption survey of rural households carried out in the OHV zone in June 1988 tends to confirm this view. The survey found that among households in the lower-rainfall, northern parts of the zone, 49\% of all meals involved grain purchased from the market (CESA/MSU, unpublished data). Such heavy dependence of a large number of rural households on the market for their grain supplies suggests that the food price dilemma in Mali is much more severe than previously thought, even within rural areas. It also suggests that policy makers need to pay considerable attention to nonprice as well as to price constraints to increased cereal production and to constraints to increasing nonfarm income, particularly among food-deficient rural households (Liedholm and Kilby, forthcoming; Reardon, Mutlon, and Delgado. 1988).

(iii) Farmers' capacity to respond

The lack of reliable time-series data on farm-level prices and quantities produced and marketed prevents quantitative analysis of the degree to which farmers have increased their production and sales in response to the liberalization. Examination of the data in Table 2, however, gives some insight into the capacity of different groups of farmers to respond.

The data cover two zones, the CMDT and OHV, that are very similar agro-ecologically, but which differ significantly in their amount and quality of marketing infrastructure and agricultural supporting services. The CMDT covers the main cotton-producing area of the country, which has benefited from investments in agricultural research (mainly on cotton), extension, rural infrastructure, and credit facilities since the 1940s. Consequently, it is the highest-income rural region of Mali. The OHV encompasses the area around Bamako, which until recently has lacked a major cash crop and the types of infrastructure and supporting services available in the CMDT. The availability and quality of these services and infrastructure still lag behind those of the CMDT. For our surveys, each zone was divided into a northern subzone, which received roughly 600 mm of rain annually, and a southern subzone, where rainfall ranged between 800 and 1,000 mm per year.

Approximately 74\% of total net sales came from the southern CMDT. The data in Table 2 indicate that three principal factors influenced a household's ability to produce a net surplus of coarse grains for the market: the rainfall and soil conditions facing the household (farmers in southern areas produced and sold much more than their counterparts in the north); the household's level of farming technology (as measured by the amount of animal traction equipment owned); and the level of institutional supporting services available to the household (as indicated by whether the farm was located in the CMDT or OHV zone). Detailed econometric analysis confirms these impressions and identifies other critical determinants of coarse grain production and sales, such as the size of the farm's labor force, the availability of cash income from nonfarm activities to help finance input purchases, and the household's degree of involvement in cotton production (D'Agostino, 1988, pp. 103–127).\textsuperscript{18}

Currently, it is primarily fully-equipped farmers in the southern CMDT zone that have any capacity to increase their coarse grain production in response to higher prices. Two questions then arise: (a) to what extent are these farmers willing to expand their grain production? and (b) what actions would be needed to endow farmers in other subzones as well as the semi-equipped and nonequipped farmers in south CMDT with the capacity to expand their production? Informal discussions with fully-equipped farmers in south CMDT indicate that most of them, once they have produced a reliable home supply of grain (including a small surplus to cover unforeseen needs), prefer to invest additional resources in less risky enterprises, such as cotton production and nonfarm businesses. These farmers report that such enterprises are generally much more profitable and less risky than producing coarse grains for the commercial market. Hence, inducing these farmers to expand cereal production for the commercial market would probably require a very large increase in the relative price of cereals as well as actions aimed at stabilizing the cereal markets.

Endowing semi-equipped and nonequipped farmers with the capacity to produce a reliable marketable surplus of grain would entail improving these farmers' access to input markets, credit, and a reliable cash crop to help amortize
the investment in agricultural equipment. The current investment capacity of these farmers is extremely limited, and is exacerbated by the need of most of them to sell what grain surplus they have immediately after harvest (when prices are at their nadir) in order to meet tax obligations (Dione, 1987; D’Agostino, 1988, pp. 136–143). It is common for such households to go into debt later in the year to buy grain during the hungry season. Periodic droughts, particularly in the more arid north, frequently force farmers who have managed to accumulate some equipment to disinvest in order to purchase food. Hence, to obtain a significant supply response from most Malian coarse grain producers would require substantial investments in improving technologies, the input supply system, and supporting services (such as agricultural extension) available to these producers. This conclusion is consistent with findings for other parts of the Sahel, which suggests a very low short-run price elasticity of supply for basic staples (Jayne and Minot, forthcoming).

(d) Impact on consumers

The majority of consumers, who formerly were excluded from the OPAM distribution system, probably have benefited from the PRMC. Urban consumers gained first by the large inflows of food aid that accompanied the start of the PRMC and caused market prices to drop substantially (Dione and Dembélé, 1986a, pp. 25–34). The reduction in traders’ transaction costs, although difficult to quantify, have also likely reduced marketing margins, thereby benefiting both consumers and producers. Consumers in grain-deficient zones have probably also profited from the removal of restrictions on private grain shipments within Mali, which has facilitated the flow of grain from surplus to deficit areas.

Under the PRMC, many of the former clients of OPAM have lost their source of subsidized grain. During the bumper-crop years of 1985–86 and 1986–87, this loss was relatively painless, as the very low market prices (which were more a function of the weather than of the liberalization) allowed government employees to obtain their staples cheaply. With the higher prices of 1987–88, delays in government salary payments, and restrictions on consumer credit, however, the reforms have begun to “bite,” leading to pressure from civil servants to bring OPAM back into the market.

Perhaps the largest beneficiaries of the liberalization have been rural consumers, even though they were not explicitly considered in the design of the PRMC. Farmers surveyed in the OHV region report that the greatest benefit they perceive from the liberalization is that it is now easier to buy grain when they need it. Prior to liberalization, if farmers wanted to purchase grain from OPAM, they would have to spend several days (most often during the planting season, when food deficits are most acute) travelling to an OPAM warehouse, obtaining necessary signatures, and standing in line. They could then only buy in 100 kg lots and had to pay cash. Although grain was sometimes available on the parallel market, it was costly, and transaction costs were high. With the liberalization, farmers report that they can now buy food in their own or neighboring villages in small quantities and on credit (D’Agostino, 1988, p. 120). Hence, the liberalization may have contributed significantly to improving the food security of rural households.

6. CONCLUSIONS AND IMPLICATIONS

(a) Successes and limitations of the PRMC

The PRMC has achieved some encouraging results during its first seven years. Nonetheless, it can hardly be called a complete success. Despite the progressive liberalization of domestic trade and imports of cereals, many aspects of the private trade still remain heavily regulated: freedom of entry in grain trade is somewhat restricted by complex licensing requirements (although these are often not enforced); exports are permitted only after a very long and cumbersome administrative process; and private traders’ access to formal credit is severely limited. These administrative and regulatory burdens continue to inhibit private traders’ ability to adjust quickly to volatile market conditions. The volatility of the markets results in part from uncertainty about what actions the public sector is planning to take in these markets.

Similarly, although farmers have benefited from the liberalization, their capacity to respond to the new opportunities has been severely limited by restricted access to improved technologies, input supplies, and supporting institutions. Consumers have also been major beneficiaries of the PRMC, yet in Mali there are still many consumers who lack adequate income to buy cereals from the market. The full potential of the PRMC is therefore unlikely to be achieved unless the program is accompanied by efforts to increase incomes and hence the effective demand for cereals.

The donor and Malian government officials
who have guided the market liberalization have shown considerable flexibility and willingness to modify the program as unanticipated problems arose. Their pragmatic, nondogmatic approach, particularly in recent years as new information has become available on the constraints facing the private sector, augurs well for the future. The Malian government has also been increasingly willing to include private sector participants in discussions about the future evolution of the program.

A major, unresolved issue facing Mali and the donors is the question of what role the state can and should play in cereal market stabilization. Instability in the grain markets undoubtedly discourages farmer and trader investment and specialization in the cereal subsector, but given the government’s very limited financial resources and the thinness of the markets, the feasibility of running a price support program through grain board purchases is highly questionable. Despite strong donor support, OPAM’s attempts at enforcing an official producer price above the market price were largely unsuccessful. What alternative roles the state, with its very limited resources, can play in reducing the volatility of cereal markets remains an area for both theoretical and empirical investigation (Robert R. Nathan Assoc., 1988).

(b) Implications for liberalization in other countries

The Malian experience points out the need to view liberalization as a process rather than a one-shot event in which “the government gets out of the market.” Liberalization involves fundamental reallocation of roles between the public and private sectors. If liberalization is to lead to improved market performance, it is not enough that the state stop doing certain things, like running monopoly marketing systems. The state must also take on new responsibilities, such as providing public information systems and improving credit markets, in order to facilitate the private sector’s ability to respond to its new opportunities (Jayne and Weber, forthcoming).

Particularly in countries that have little prior experience with liberalization, this reallocation of roles involves a process of learning by doing, in which both the public and private sector gradually find out what changes in the “rules of the game” are desirable and feasible. For example, at the beginning of the PRMC, donor and Malian policy makers agreed that the abolition of OPAM’s monopoly needed to be accompanied by higher farmgate prices in order to encourage cereal production. Subsequent experience and research showed that given Mali’s limited resources, maintaining a support price significantly above the open market price was neither feasible nor particularly desirable from an equity perspective.

Because liberalization is, in a certain sense, a venture into the unknown, there is also a high payoff to building in-country capacity to monitor and evaluate the evolving market situation. Providing feedback to policy makers on emerging constraints and opportunities facing consumers and the private sector can be critical in assuring success of such market reforms. Problems inevitably arise, and if not identified and addressed in a timely manner, there is a danger that policy makers will judge the liberalization a failure and revert to the old policies that gave rise to the need for reform in the first place.

The Malian experience also demonstrates that it takes time to build domestic constituencies for liberalization. Initially the impetus for the PRMC came also entirely from the donors. As it proceeded, however, more and more Malians, both inside and out of government, became convinced of the need for reform and had an interest in promoting it. If liberalizations are pushed too rapidly, there is a danger that such constituencies will not have the time to develop.

Liberalization of a particular portion of an economy, such as the cereal subsector, takes place within the context of the broader economy. The recent history of the PRMC also illustrates that fundamental institutional problems of the economy as a whole, such as the inability of the government to meet its payroll or to enforce contracts, may seriously jeopardize even well-designed, sector-wide liberalization programs.

The experience of the PRMC also demonstrates that the capacity of farmers and merchants to respond to liberalization varies widely depending on their access to improved technology, productive resources such as investment and working capital, information, and political influence. How the liberalization evolves, therefore, depends critically on policies that affect various participants’ access to these different factors. In this sense, fostering better economic performance through liberalization involves finding an appropriate mix of improved policies, institutions governing access to productive resources, and technologies.
1. In all countries, the state is always involved in setting the basic rules under which markets operate and in determining what may or may not be legitimately traded (Schmid, 1978). In this sense, liberalization is a 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.” In this sense it is a somewhat broader concept than privatization.

2. For the period 1975–84, the coefficient of variation for production stood at 0.34 for rice, 0.38 for maize, 0.15 for millet and sorghum, and 0.15 for all cereals in the aggregate (Robert R. Nathan Assoc., 1988, p. 6). Even though rice is produced largely under irrigation, production is highly weather-dependent due to the low degree of water control in most Malian irrigation schemes.

3. In Mali, the cereal marketing year runs from November, when the main harvest of millet and sorghum begins, through October.

4. Opérations de développement rural.

5. The international agencies and donors included the World Food Program (the project secretariat), Belgium, Canada, the European Community, France, Great Britain, the Netherlands, the United States, West Germany, and Austria. During the initial five years of the program, the donors took the lead in proposing specific market reforms to the Malian government. Donor proposals were initially developed by a technical committee and then debated among the various donors at the political level. All proposals had to be unanimously agreed upon by the donors before being proposed to the Malian government. The process of debate and compromise, both among the donors themselves and between the donors and the Malians, often led to proposals that were not entirely mutually consistent, as outlined below. Since 1987, the Malian government has begun to take the lead in proposing additional reforms, as certain members of the government have become more strongly convinced of the need for liberalization.

6. Rice marketing was liberalized in 1986–87. Private traders still must obtain licenses to import grain, and exports are banned in all but exceptional circumstances.

7. Even though production was below recent historical levels during 1981–82, 1982–83 and 1984–85, the average for these three years was still 14% above the annual average for the three years immediately prior to the PRMC (1978–81).

8. The number of public institutions and cooperatives in Bamako purchasing grain from OPAM fell from 242 in October 1985 to 19 in December. OPAM was under pressure not to sell its grain at below the official price, as this would result in a loss showing up on OPAM’s books, which would call into question the success of the PRMC. Such an accounting loss was avoided by valuing the inventory at the unrealistically high official consumer price.

9. OPAM was also given two subsidiary roles: acting as a screening agency for merchants and village cooperatives applying for PRMC marketing credit (which is described below) and providing grain fumigation services to private traders on a contract basis.

10. The average semi-wholesaler handled between 20% and 40% of the volume handled by a wholesaler, depending on the city (Mehta, forthcoming, Table 4.5). This implies that most new entrants began with relatively small operations.

11. One Bamako merchant estimated that his average net margin on a 100 kg sack of millet fell from 1500 CFAF to 200 CFAF, which he attributed almost entirely to a reduction in the risk premium.

12. Frequently, employees of government ministries and other major employers formed buying clubs, known as groupements d'intérêt économique, which traditionally were supplied by OPAM. As OPAM was priced out of the market, these organizations increasingly turned to private wholesalers for grain.

13. One constraint to wider participation was the requirement that the loan recipients have a bank account. Few traditional traders had such accounts, in part because historically banks in Mali have paid very low interest rates and accounts have sometimes been seized by the government when it lacked other funds to meet its financial obligations. Recently, a few large merchants, however, have been increasingly relying on bank credit. Since 1987, several large grain merchants in Bamako have formed joint ventures (similar to holding companies) to improve their creditworthiness in the eyes of commercial banks in order to improve access to formal credit.

14. In 1988, most wholesalers in Koutiala, Sikasso, and Mopti reported storing their grain for 10 days or less, while the modal figure for Bamako was less than three weeks (Mehta, forthcoming, Table 4.16). Most long-term grain storage in the country appears to be undertaken by farmers.

15. The government finally did impose a ban on rice imports in March 1988, at the urging of the PRMC donors, but by that time the country had experienced a mediocre harvest and market supplies were dwindling. The ban resulted in a very rapid increase in both rice and coarse grain prices (Figure 1). For a discussion of the limits to this type of agricultural protection policy in the Sahel, see Jayne and Minot (forthcoming).

16. CMDT stands for Compagnie Malienne de Développement des Textiles, the Malian ODR, in charge of extension, input provision, and output marketing for
cotton farmers in the country. OHV stands for *Operation Haute Vallée*, the Niger River Upper Valley Development Authority.

17. Animal traction is the main improved technology available to Malian cereal farmers.

18. D’Agostino’s analysis (1988, pp. 103–105) shows that holding constant factors such as farm location, level of equipment, and farm labor force, a farm household’s coarse grain production rose by 240 kg for each additional ton of cotton produced. Farmers attribute most of this gain to the residual effects of cotton fertilizer on the millet and sorghum grown in rotation with cotton.

19. To help address these farmers’ seasonal cash-flow requirements, in 1987 the PRMC launched a village-level credit program, similar to the trader credit scheme described above. Under this scheme, village cooperatives obtain loans and buy grain from their members at harvest, thereby giving local farmers the liquidity they need. The cooperatives store the grain for resale later in the year when prices are higher, rebating any profits earned to their members. Although this program encountered some implementation problems in its first year, it has generally performed better than the credit program for traders (Dembélé and Steffen, 1987; Scott, 1988).

20. Preliminary results from the OHV rural consumption study mentioned above indicate, however, that those who are most dependent on the market for food are families in the middle of the rural income distribution. The poorest families, whose food consumption is least, simply lack the resources to purchase much food from the market (CESA/MSU, unpublished data).

REFERENCES


CESA/MSU Projet Sécurité Alimentaire, unpublished data (Bamako: Commission Nationale d’Evaluation et de Suivi de la Sécurité Alimentaire, Secrétariat Technique, various years).


Dioné, Josué, and John M. Staatz, “Market liberalization and food security in Mali,” *Agricultural Economics Staff Paper, No. 87–73* (East Lansing, MI: Michigan State University, Department of Agricultural Economics, 1987).


Jayne, Thomas S., and Nicholas Minot, “Food security policy and the competitiveness of agriculture in the


Mali, Ministère de Tutelle des Sociétés et Entreprises d'État, "Séminaire national sur la politique céréalère au Mali: Contributions" (Bamako: June 15-18, 1987).


Office Malien des Produits Agricoles (OPAM), unpublished data (Bamako: OPAM, various years).


Simmons, Emmy B., "A rapid review of agricultural sector issues in Mali and USAID/Mali's role in addressing them," End-of-tour report to USAID/Bamako (Bamako: USAID, August 23, 1987).


