

INTERIM ECONOMIC IMPACT ASSESSMENT  
OF CEREAL POLICY REFORM IN NIGER  
1985-1988

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## INTRODUCTION

This paper presents the current status of the University of Michigan team's interim assessment of the economic impact of USAID/Niger Agricultural Sector Development Grant in the area of cereal policy(1).

The purpose of this assessment was to:

- establish a basic methodology for grant impact assessment in various economic areas, and for various groups concerned;
- test this methodology with existing data. Through this process, refine the approach and ascertain whether data available or currently collected are sufficient for this type of exercise.

Because of the overwhelming effect of multiple and complex exogenous factors, the general approach is obviously not based on a simple before/after comparison. Key benchmark indicators have been selected and followed over time, but they are more useful to track actual implementation than for measuring net final effects. However, exogenous factors are integrated into the analysis to the extent that they modified actual implementation in a major sense.

The impact assessment follows these general steps: (a) a description of the original policy rationale, in some cases with further development, (b) an overview of actual implementation in policy reform, (c) an assessment of macroeconomic and budgetary impacts, and (d) an assessment of net effects by main social group concerned.

## I. DESCRIPTION OF THE ASDG POLICY RATIONALE

### A. Problems

In 1984 ASDG designers identified four major problem areas in cereal marketing. This section provides a brief economic/food policy analysis for each one.

#### 1. Ineffective official producer prices

Niger's policy of farm income support was ineffective for a number of reasons: in some years, the official price was below free market grain prices in the areas where transactions took place. Further, even when official prices were above market levels, the lateness of OPVN purchases meant that traders would actually benefit from the policy, since many farmers had already sold most of their surplus grain, or had no access to OPVN buying agents.

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1 The basic report was prepared by Henri P. Josserand and Frank Casey, University of Michigan. We acknowledge the valuable contributions of Larry Herman and Charley Steedman, and of Cynthia Moore.

It is important to recognize at the outset that official prices were never meaningful in a "national" sense. Given Niger's climatic conditions and production patterns, official prices could only be above market levels in certain areas (southern zones) at any point in time. Conversely, at any given time, official consumer prices could be below free market levels only in certain areas (northern/deficit zones). National prices were therefore uniform in level but not in application.

The potential consumer surplus from buying at the official rather than market rate was greatest in deficit regions or famine periods, which appears "sensible". However, the potential rent derived by selling at the official rather than market price was greatest in the most productive and favored regions, which was less justifiable, from a social policy point of view.

## 2. Ineffective price stabilization

Generally, when the marketed quantity of a commodity represents a small proportion of domestic production, public interventions on the market can have noticeable price effects, especially if demand for that commodity is price inelastic. However, the price effect of OPVN interventions was diluted because:

- (i) non-official cereal marketing was large compared to official purchases(2), and,
- (ii) the size of grain movements from northern Nigeria represents in some years a very large share of total Nigerian grain exchanges(3).

Aside from the actual extent of OPVN price stabilization, one should note that under conditions of uncertainty in production and wide price fluctuations, such a policy objective tends to favor consumers rather than producers of basic staples. Basic commodity price stabilization is advantageous to consumers, who buy their entire food requirements out of relatively fixed budgets. On the other hand, price stabilization tends to destabilize and redistribute farm income derived from marketable surplus. The reason is that in good years prices fall because farmers try to maintain revenue by selling larger quantities of low-priced cereals. This is all right since in these years marketable surplus is abundant. In bad years, marketable surplus is limited, but a free-market rise in unit prices would normally help farmers meet revenue objectives from reduced sales.

Some of the key cereal policy problems typical of Niger and other Sahelian nations may be summarized as follows:

- In good years prices fall so much that even with increased sales farmers may not be able to meet monetary revenue objectives through cereal marketing.

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2 Depending on yearly production, marketable grain surplus may top 350.000 tons p.a.

3 Shortfalls in Nigerian domestic production can be partly made up through imports from northern Nigeria (150.000 to 200.000 tons p.a. is a common estimate).

- In bad years prices rise due to a scarcity of marketable surplus. In fact, when demand is rather price inelastic, an increase in price leads in the aggregate to a proportionally smaller decrease in food consumption, but it does involve a sharp increase in the food bill. Overall, this means either a reallocation of consumer income from the non-food to the food part of the budget, or a global decrease in consumption. For consumers already "at the margin" food demand may fall below "acceptable" levels.

- Finally, if food aid leads to an infusion of large quantities of cereals on domestic markets, its impact on arbitrageurs and on producers' incomes is negative (small quantities of marketable surplus are no longer offset by higher per unit market value).

These are genuine, complex food policy problems, but commodity price stabilization has naturally not been more successful in Niger than it has elsewhere. The first problem (higher and more stable farm incomes) can only be solved through increases in farm productivity, diversification of production, more local transformation of domestic food staples, and more efficient marketing systems, which are indeed fundamental ASDG goals.

Addressing the second problem involves, among other things, direct food assistance programs to carefully selected target groups (including use of food aid), upgrading of income-earning ability (education, health), and more efficient marketing systems.

### 3. High cost of OPVN interventions

Through sub-optimal timing in its interventions, OPVN had limited effectiveness in farm income support and price stabilization; the basic problem was that the Office often bought and sold cereals at the "wrong" time, and from the "wrong" people, (i.e. buying long after harvest time, from traders rather than producers, for example). OPVN was also incurring large deficits. The Office was to use the margin between purchase and resale prices to cover most operating costs, but this margin was too narrow compared to transaction, transport and storage charges. The narrow width of OPVN's marketing margin resulted from the political decision to appear in support of both producers and consumers, and was mostly beyond OPVN control.

### 4. Poor circulation of information

Information on grain availability and prices did not circulate well in Niger. This hampered fair competition and market efficiency, and raised transaction costs. To the extent that OPVN management made suboptimal decisions for lack of better information, this contributed both to budgetary deficits and to skewing the distribution of benefits derived from OPVN interventions.

Another effect of poor market information was that the impact of food aid on farm income and domestic production incentives could neither be correctly anticipated nor well understood.

## B. Solutions

Cereal policy reforms prescribed under ASDG fell into four categories:

### 1. Abandon nation-wide official prices

Although they did not discuss in detail the counterproductive effects of uniform national cereal prices, ASDG designers prescribed the removal of this policy.

### 2. Institute a tenders/bids system at OPVN

Once uniform national prices were no longer officially binding, an obvious way of reducing OPVN deficits was to have lower cereal acquisition costs, and more efficient grain sales. The tender and bids system was expected to allow this, while increasing competition among large cereal traders. In fact, the tender and bids system could theoretically come to include cooperatives as well.

### 3. Liberalize grain movement and trade

It was felt that the liberalization of grain movements and trade would contribute much more to market efficiency, support farm income and stabilize grain prices, than official policies ever could. A decrease in transaction costs would in fact be the only way to provide simultaneous economic gains to both producers and consumers. In addition to the removal of uniform national prices and state monopolies, this was to be sought through a better integration of cooperatives into the marketing and grain storage systems.

### 4. Collect and publicize grain prices

This was to lead both to a better understanding of the way markets worked (including motivations and strategies of producers, intermediaries, consumers), and to increased efficiency and competition through better information at all levels. A better knowledge of prices was also considered essential for the preparation of OPVN tender documents and to improve purchasing practices.

## II. POLICY REFORM EXPERIENCE

This section of the paper shows the translation of ASDG objectives into policy reform objectives, and examines the extent to which they were implemented.

This assessment is not meant to be a direct before/after comparison of certain indicators because we don't believe it is possible to sort out after the fact effects attributable to ASDG and those due to other factors. In other words, taking the "partial derivative" of a key variable with respect to ASDG appears pointless. Our approach to integrating exogenous factors is to show how they influenced policy reform implementation. This reduces the number of "relevant" exogenous factors to a manageable number, and makes each one more tractable to analysis.

Policy reform objectives were expressed as a set of "conditions precedent" to the release of funds for each tranche:

### 1. Abandon National official prices

The policy reform objective was to "abolish uniform national pricing for cereals". In fact, this was understood to apply only to millet and sorghum. The only other major cereal for which prices were set by the government, rice, was not included in the analysis.

### 2. Tender and bids System

The specific reform objective was to establish a system of tenders and bids for OPVN's sales and local purchases of grain to enable cooperatives and private traders to participate fully in the marketing of grain. Proportions of OPVN transactions done through tenders and bids were to increase over time from 20% to 50% of total.

### 3. Other Measures

We previously indicated that ASDG designers had recommended the liberalization of grain movements and trade, and the collection/diffusion of grain price information.

Actual implementation is naturally a major determinant of the success of policy reforms. It is discussed below for each of the selected reform objectives.

#### 1. Abandon uniform cereal prices

Uniform, nation-wide millet/sorghum prices were not officially set after 1985/86. The Nigerien government's decision to remove official prices (or rather, abstain from issuing new ones) demonstrated successful management of the difficult exogenous weather factor: two successive good agricultural years have kept farm level prices at very low levels since 1985. There has been, and remains, some political pressure to take action<sup>(4)</sup>. On the other hand, favorable weather has allowed the government to avoid difficult choices regarding consumer price levels.

The official prices issue deserves some elaboration. Let us first consider producer prices.

What actually happened is that the definition of official prices evolved both conceptually and politically. Previously, the attitude had been that official purchase prices were "binding"; the state stood in principle ready to support producer prices and incomes by buying cereals from anyone willing to supply them at the official price. Among some, a more extreme view was that the state should also try to prevent transactions from taking place at lower levels. Over time, this attitude became tempered to the extent that instead of setting nation-wide, firm, and supposedly binding purchase prices, the government of Niger announced "indicative", intervention threshold prices. These are levels be-

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<sup>4</sup> As of this writing, the Prime Minister has asked staff at the Ministries of Commerce and of Agriculture to examine again, in greater detail the current official price policies for cereals.

low which the administration feels producer prices should not fall, and which are to constitute both a trigger and lower bound for OPVN purchases.

Let us now consider consumer prices.

Official consumer prices have generally been less of a policy reform issue; there are several reasons for this:

Firstly, official producer prices were annually set by ministerial decree and widely published, while consumer prices were set on an ad hoc basis, in periods of exceptional tension on grain markets.

Second, producer prices are perceived as directly related to farmers' incomes, while staple prices appear directly related to basic food consumption, a relatively more sensitive issue. Secondary effects on farmers' food consumption and consumer incomes are significant but less obvious, overshadowed by the need to satisfy a basic want.

Third, the state has considerable latitude in determining which needy populations (rural as well as urban) require free food assistance. In a situation where the state determines the proportions of officially priced and freely distributed food, the level of official consumer prices becomes a rather moot point.

Finally, producer price support tends to become an issue in "good" years, when farmgate prices are depressed but when the overall food situation is favorable. However, consumer price support becomes an issue in bad years, when purely economic arguments are least welcome, and when foreign donors contribute directly to food relief at best and to market destabilization at worst.

In recent years, official consumer prices for cereals (except rice<sup>5</sup>) have been set only during the 1984/85 drought period.

OPVN purchases:

The following section on tenders and bids implementation shows that OPVN was not bound by official prices. However, the amount eventually spent by OPVN was strongly determined by purchase dates and practices.

## 2. Tender and bids system

Since the tenders and bid system was only applied to grain purchases, the approach followed in this section is to compare the financial cost of OPVN tenders and bid purchases with the financial cost of acquiring equivalent amounts of grain on the open market at prevailing retail rates. Data requirements are straightforward: date, location and volume of purchases, terms of contract award and local market prices; these are reconstructed mostly from OPVN sources.

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<sup>5</sup> Contrary to millet, sorghum and other traditional cereals, the official consumer price for rice is not set at a maximum, but rather at a minimum level, to help cover costs of domestic production and transformation.

The most relevant exogenous factor is that the World Bank was undertaking a simultaneous set of policy reforms involving OPVN budget and management practices, as well as the maximum size of its security stock(6).

a) 1985/86 Campaign

A tender and bids system was instituted in 1985. In October and November 1985 some contracts were awarded at prices above prevailing retail levels, which did nothing to achieve either cost reduction or farm income support. About 45% of cereals were purchased from traders, while 55% were bought from cooperative associations (URCs). URCs represent Departement-level farmers' cooperative associations, but this does not mean that cooperative members directly benefitted from OPVN purchases. Most producers had already sold grain by the time these transactions took place, and cooperatives as such have no available funds to prefinance purchases from farmers for later resale to OPVN(7). URC sales to OPVN have actually been fronts for large traders' operations.

OPVN often paid more for wholesale purchases than the prevailing retail rate partly because of suboptimal application of the tenders and bid system. Although there are a number of large grain wholesalers on any significant market, virtually all operate strictly within the confines of the "informal" sector. Most cannot fulfill the formal requirements of the tenders and bid system, and find themselves ineligible from the very start. For the three 1985/86 tenders, the number of qualifying bidders was 7 out of 41 for the first tender, 4 out of 36 for the second one, and 14 out of 31 for the third...

Most traders deal in many other goods aside from cereals, and the "formalization" of their activities simply for OPVN tenders and bid purposes just does not appear worthwhile to them, especially since they can always work through qualifying "front men". This results, contrary to the intended purpose of the approach, in a concentration of oligopolistic power among large grain traders rather than in increased competition and more efficient transactions.

Starting with the first contract (Nov. 12, 1985), it appears that at the prevailing retail prices OPVN could have bought 7,000 tons of cereals for about 408 millions CFA. Since the Office actually paid 572 millions CFA, this represents an overcharge of at least 40%, or a 164 million CFA economic rent realized by a small number of grain wholesalers.

The second contract (to URCs, at the uniform price of 75 CFA/Kg) had a mixed effect. URCs in Maradi and Zinder gained since the purchase price was above the retail level, while URCs in Dosso, Diffa, Niamey and Tahoua probably did not, considering

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6 Like Zalla et al. (Annex H of PAAD) the World Bank reached the conclusion that the size of the national security stock handled by OPVN was too large relative to resources available. Furthermore, the World Bank set the proportion of purchases through the tender and bids system at 80%, compared to the ASDG 20-50% level.

7 On primary marketing by cooperatives, (including cereals), see for example: "La Commercialisation Primaire par les Coopératives" Ministry of Agriculture and Environment, DEP, April 1988.

transport costs to departmental capitals. The overall incidence on OPVN of purchasing through URCs rather than on the open departmental markets was a 175 million CFA loss.

Finally, purchases under the last (Feb. 10, 1986) contract added up to 12,577 tons out of the 13,780 tons awarded. Considering monthly deliveries to OPVN from February through May of 1986 in the various departments, the total bill to the Office was about 192.5 millions CFA over the cost of equivalent purchases at prevailing retail prices.

The global cost of the 1985/86 OPVN campaign thus appears to have been on the order of 531.5 million CFA higher than it could have been had OPVN bought grain at prevailing market rates<sup>(8)</sup>. Note that an added advantage of direct market purchases from local producers, cooperatives and traders, is that such grain is of better quality.

#### b) 1987/88 Campaign

The 1987/88 campaign provides the second major experience in the tenders and bid system application. OPVN management intended to buy 25,000 tons of cereals, mostly with west German financing. The proportion set aside for tenders and bid purchases was 20,000 tons, or 80% of total. OPVN broke down the global amount into small lots (minimum of 150 tons) to allow participation by relatively small wholesalers.

Implementation met with several problems. Tenders were publicized by radio and in the press on December 4, 1987, with a due date of December 15 for sealed bids to be delivered in Niamey. Since radio announcements were unclear to most traders, who had to contact OPVN agencies for additional information, this left very little time to fulfill necessary formalities, prepare and submit a sealed bid in the capital.

In terms of direct purchases, the lateness of OPVN's campaign meant that less grain could be bought from producers, who had already sold to local traders marketable surplus equivalent to immediate monetary requirements.

A very limited number of wholesalers finally qualified under the tenders and bid system, but since the Office was now attempting to strike deals at levels close to prevailing free market prices, wholesalers were not overly eager to accept contracts. Their anticipation of price movements over the next few months apparently led them to choose deferred over immediate sales close to spot prices. The small number of qualifying members from this extremely tight-knit guild may also have colluded to put pressure on OPVN. As a result, sales of cereals to the Office did not start until late February 1988, and most of the contracts were awarded at 85 CFA/kg. Even then, transactions were rather sluggish, OPVN having bought about 16,500 out of 20,000 tons by the end of April.

Since most of the purchases took place in the southern Maradi and Zinder Departments, the financial cost of 1987/88 operations

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<sup>8</sup> This estimate would be even higher if we took the lowest bids rather than retail prices as a reference, but lowest bids are not necessarily a valid reference.

was approximately 330 millions CFA above what it would have been had OPVN bought cereals shortly after harvest (early December) at prevailing market prices(9).

### 3. Other Measures

#### a) Liberalization of grain trade

Cereals were identified as priority targets for internal trade liberalization in the PAAD section on "Institutional and policy constraints on agricultural production in Niger" (Annex H). Zalla et al. recommended that:

"at the primary level, any individual, merchant, trader, cooperative or other marketing intermediary should be able to purchase grain, cowpeas, and peanuts at any price at any time it chooses."

This was indeed accomplished to the extent that the GON abolished legally binding uniform national prices for traditional cereals save rice, and the monopoly status of SONARA.

Another objective contributing to more efficient grain marketing was to "guarantee revolving funds for up to 200 functioning cooperatives to enable them to make cash purchases of grain and maintain village level grain reserves".

The APS/CLUSA project has been highly successful in training cooperative members and help them organize themselves to design, finance through guaranteed commercial bank loans, and carry out a variety of profitable economic activities. However, most cooperatives have opted for activities considered more profitable than primary cereal marketing.

The grain marketing study done under the Joint Program Assessment(10) suggested that grain markets in Niger were relatively efficient at handling temporal and spatial arbitrage(11). Still, they noted that inter- and intra-annual price fluctuations were considerable, and that spatial integration, more efficient on east-west than north-south axes, took place with significant marketing margins.

Temporal marketing margins are mostly determined by the respective storage and capital immobilization costs of the various economic operators involved (farmers, traders, OPVN). For traders, they also include the risk of having agents of the state take over their stocks at an arbitrary price in times of acute shortages.

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9 Prevailing December prices in Maradi and Zinder were at least 20 CFA/Kg lower than award levels. On 16,500 tons this translates into 330 millions CFA.

10 Joint Program Assessment of Grain Marketing in Niger, Elliot Berg and Associates, December 1983.

11 Temporal arbitrage tends to equalize prices over time through storage and deferred sales, while spatial arbitrage tends to reduce differences between points to minimum transport and marketing costs.

Spatial marketing margins are determined by transport infrastructure and costs, degree of competition and economic efficiency in trade, circulation of information on prices and costs, and administrative or legislative obstacles to movements of goods.

Since 1985 people have been relatively free to engage in cereal marketing and storage, the removal of legal official prices and state monopolies being the major reason for this. The fact that out of the last three campaigns two were good and one passable certainly eased the situation. Most people who have extensively traveled and traded within Niger over the past few years report that it has become easier to do so. However, movement of grain, and of other basic goods, remain subject to strict control. In his January 1988 report(12), David Wilcock explains in detail the extent of controls by the police, Gendarmerie, Garde Républicaine and customs officials. He provides estimates of costs due to these controls. Some, like "unofficial taxes" are almost straightforward transfers from one segment of the economy to another. Other costs are deadweight losses; they include time wasted and losses in produce due to controls, and concentration of market power into the hands of operators better organized to "deal with the system".

The statistical analysis presented below tests whether there were quantifiable gains in grain marketing efficiency due to ease of restrictions.

Inter- and intra-annual price fluctuations of grain prices expressed in constant terms have been analyzed in detail on the basis of monthly data for the 1970-1986 period(13).

Inter-annual fluctuations were very large compared to the variability of domestic production expressed in constant population terms, with a period average of 32.5 CFA/Kg and a standard deviation of 8.6.

Intra-annual fluctuations are also significant, but even there, the direction of price change over the year is far from being constant. If we take April 1-September 30 as a reference "soudure" period, it turns out that monthly prices do not follow a simple, systematic pattern year after year. From 1970 through 1987, the number of years when prices fell during that time is equal to the number of years when prices rose.

Although inter-annual fluctuations have been dampened since 1985, this latter period is much too short to establish a trend, or draw conclusions on the possible determinants of this short-term stability. Graphs 1 and 2 show the monthly evolution of millet prices in Dosso, Maradi, Niamey, Tahoua and Zinder for both periods.

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12 "Study of Constraints to Increased Exports of Agropastoral Products in Niger". David Wilcock, DAI, Jan. 1988.

13 "Analyse de l'Evolution à Moyen-terme des Cours Céréalières au Niger et de leur Variabilité par Rapport aux Niveaux de Production". MA/DEPSA, November 1987.

Spatial marketing margins and integration have also been analyzed in detail, for the 1982-1987 period(14). Correlation analysis of free market retail prices in Dosso, Maradi, Niamey and Zinder show good spatial integration, coefficients of determination are:

	DOSSO	MARADI	NIAMEY	ZINDER
DOSSO	1			
MARADI	0.713	1		
NIAMEY	0.749	0.829	1	
ZINDER	0.684	0.893	0.824	1

A comparison of correlation for the 1982/85 (n=32) and the 1985/April 1988 (n=30) periods, seasonally matched, does not show any significant difference.

The absolute and relative sizes of marketing margins between Zinder and Niamey for the 1982/85 and the 1985/April 1988 periods (see Graph 3) suggests a slight decrease:

	Average (CFA/Kg)	St. Deviation	
1982/85	27.3	14.8	n=32
1985/88	25.9	17.3	n=30

However, this decrease is not statistically significant(15).

#### b) Collection/diffusion of market prices

Market price collection for basic foodstuffs has been going on in Niger for many years, the government having long ago recognized the importance of closely monitoring such key indicators.

Cereal prices have been collected over time by a variety of sources. In Niamey, the Ministry of Plan has been monitoring them to determine the consumer price index. The Ministry of Commerce's Direction du Contrôle des Prix also follows them (although less systematically, and for official use only). In the interior, cereal prices are collected by Ministry of Agriculture agents, by the Gendarmerie, and by OPVN's field agents. Ministry of Agriculture data have traditionally been spottier and less timely, figures from OPVN agents being more regularly and promptly communicated to Niamey. The Gendarmerie, relying on the Interior Ministry radio network can report prices very quickly, but their reliability is questionable. Each group uses their own survey and sampling methods, visits different markets, at different intervals, etc. which naturally makes comparison and checking of data quite difficult.

14 "Les Prix comme Indicateurs de l'Etat et du Fonctionnement des Marchés Céréalières au Niger". MA/DEPSA, December 1986.

15 The point estimator of the difference between the two means (1.4) is less than one standard deviation of  $(y_1 - y_2)$ .

Ministry of Plan data have been available in their monthly and quarterly statistical bulletins, Ministry of Agriculture data have been available in annual statistical reports, Gendarmerie prices were communicated to OPVN, and OPVN issued a stocks and prices bulletin at varying intervals.

Over time (since the early 1980s) the evolution of cereal price data collection and diffusion has been as follows:

- Ministry of Plan, Ministry of Agriculture, and Gendarmerie data collection and diffusion remained relatively constant.

- Through 1984 and part of 1985 OPVN issued monthly stocks and price bulletins based on their own as well as on Gendarmerie price data. In the summer of 1985 a consultant financed under the German reserve stock project helped improve survey methods, and report preparation. Monthly bulletins came out regularly until the fall of 1985; price and stock data were partly processed on computer equipment available at OPVN.

- In the fall of 1985, OPVN responded to World Bank pressure for budget cuts by laying off low-level laborers, reducing the number of its rural buying centers by a factor of about 5, and decreasing allowances for communications (telex and telephones). It is clear to us that financial benefits from these "savings" were much smaller than their economic costs. OPVN bulletins disappeared for several months in late 1985, and reappeared later as quarterly bulletins. Part of the bulletins data presentation (maps, graphs) was provided under an informal exchange arrangement with the FEWS project researcher at the Ministry of Health.

- In the fall of 1987 the FAO provided OPVN with technical assistance to upgrade cereal price data collection and publication. Although the extent of such technical assistance is limited, OPVN has been publishing monthly bulletins since January 1988. Such bulletins are, however, distributed only to official agencies in Niamey.

- In the spring of 1987 the Ministry of Agriculture started publishing a summary situation report(16) every two weeks or so to present quickly and concisely to decision makers up-to-date information on crop status, rainfall, official stocks, cereal prices, etc. This report goes to the Prime Minister's office, to the Minister of Agriculture, OPVN, the Ministry of Commerce, RINI, and various donor agencies (AID, FED, CCCE, PAM).

- Also in the spring of 1987 ONAHA's monitoring unit started following paddy prices on small rural markets located along the Niger river. We do not know how long this survey will last, and distribution of results is quite limited.

- RINI has recently started collecting market prices for domestic and imported milled rice; these data are not yet widely available.

What conclusions can we draw from the last few years' experience in price collection/diffusion ?

- Although GON agencies appear interested in obtaining price information, they have not taken the initiative in improving or distributing it more widely. On the contrary, donor agencies are eager "consumers" of such data, and support most collection efforts.

- Still, price data collection and distribution remain limited. It circulates within a rather small network, and virtually none leaves the Niamey city limits.

- No such information has been broadcast on the radio (as is currently the case in Senegal); although some members of the administration are in favor of such broadcasts, many remain firmly opposed or think it would have no useful impact.

### III. ASSESSMENT OF POLICY REFORM IMPACT

With respect to anticipated program benefits from policy reforms in grain marketing, we quote from the grant agreement:

"...The policy changes are also expected to contribute to the reduction of the costs of managing the country's food reserves and to increase farmer incomes and export earnings from agricultural production."

#### A. Macroeconomic impact

The removal of official prices can only have had a positive economic impact through gains in market efficiency, however, it cannot be precisely quantified at this time.

The impact of removing official prices upon the national budget was positive, however, the extent to which current practices represent an improvement over old ones depends less on official policy posture than on implementation: in particular the date and locations of OPVN purchases.

The economic value of an improvement in information is difficult to assess. However, we feel the collection/diffusion of grain market prices had a positive impact to the extent that decision makers may now be better informed of market mechanisms, evolution of prices, and possible impact of various policy options. The fact that detailed information is more readily available has also further highlighted the weakness of certain policies. Demand for such information by donor agencies, especially the ones involved in food aid, is so strong that current market data collection and diffusion efforts must have a positive impact.

As we noted above, budgetary impact from removing official prices and carrying out tender and bid grain purchases has been very slight. Part of the reason is that the government uses very little of its own money to manage the national security stock. The typical pattern rather consists of buying cereals with foreign

funds, storing the grain and reselling it later at a higher price. Upon sale, the proceeds, minus some fixed transportation and/or handling expense per ton, are placed into a counterpart fund.

Here's an illustrative example. Suppose the government wishes to buy 20,000 tons of millet for its security stock, with donor funds. We consider two possible cases. In Case A millet is bought at an average 80 CFA/Kg for a total cost of 1.6 billion CFA. In Case B millet is bought at an average 65 CFA/Kg for a total cost of 1.3 billion CFA.

After several months 20,000 tons are sold for an average 110 CFA/Kg (2.2 billion CFA) and the proceeds, minus OPVN charges, are deposited into a counterpart fund. Obviously, the main determinants of the amount deposited are the sale price and the OPVN charge. The purchase price does matter to the donor (300 million CFA difference between the cases) but the government has no strong incentive to minimize it. On the contrary, a higher purchase price allows the state or the public service to extend political patronage. Furthermore, the government has every incentive to maximize counterpart fund proceeds (without raising consumer prices) by undercharging for OPVN services, and letting the Office accumulate debts.

The experience of the last few years suggests that the donor's attitude with respect to rigorous management is all-important. The difference between the November 1985 and February 1986 purchases is a case in point.

## B. Net Effect by Main Group

### 1. Higher-income rural households

To assess this impact, we first define the relevant differences between these and lower-income rural households. One of the major differences is the size of the food stock, and the diversity and level of alternative sources of income. More successful households are less pressed by monetary needs at harvest time. They are therefore better able to maximize the benefit they derive from cereal production either by selling at more profitable times, by waiting for official buying campaigns, or simply by not having to purchase cereals later on in the year.

To understand the impact of official purchases on various groups, one must recognize that in recent years, grain bought by OPVN has simply been shifted from traders' warehouses to state silos. An immediate profit was made by the arbitragers involved (large wholesalers), who could then use the money either to replenish the portion of their stocks sold to the government, or invest into some other economic activity. To the extent that they did replenish their grain stocks<sup>(17)</sup>, aggregate demand was increased, and there was a resulting rise in grain prices, which potentially benefitted anyone still holding grain stocks after the OPVN intervention.

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<sup>17</sup> The extent to which they did is open to question, since they must have expected OPVN to put grain back on the market later, thereby depressing prices and the market value of stocks still held by traders.

The amount of intra-annual storage done by larger rural households is thought to be significant. In a good year (e.g. 1985/86) the gross surplus from farmers' point of view (production minus annual consumption, minus seed and partial stock reconstitution) may reach 500.000 tons of cereals.

This constitutes potentially marketable surplus. Part of this surplus is marketed at harvest time to meet pressing cash requirements. Traders naturally buy large stocks at that time, but most of the cereal surplus is held by the more successful rural households, who will be selling some grain over time during the year and keeping the remainder for the following year's consumption or sales. The rate of marketing over the year depends very much on the evolution of market prices. OPVN's annual stock rotation requirements are at most 40.000 tons, and grain traders' storage capacity is limited both by physical space and capital requirements. Our rough estimate is that traders can make at harvest time an investment of at most 150.000 tons (representing a considerable investment, about 8 billion CFA). This means that in a good year rural households may be holding up to 300.000 tons of potentially marketable cereals. The impact of policy changes on the economic value of such stocks can therefore be sizeable.

It is important to recognize that to grain-storing rural households, the very fact that OPVN is buying grain is more relevant than the official purchase price, since OPVN tends to buy from wholesalers anyway. Wholesalers capture immediate rent, while grain-storing households benefit from the price increase due to the shift in demand, to them the quantity bought is the crucial variable, not the OPVN price. Reducing OPVN purchase prices did diminish wholesalers' rents, but it had almost no impact on other grain holders, because the purchase price no longer determines the amount OPVN can afford to buy.

The liberalization of grain markets is expected to have had a positive impact on grain-storing households, however, to date this impact has been very slight.

## 2. Lower income rural households

These are the households which sell most of their grain surplus at harvest time, or even have to purchase additional grain later in the year. Here too, removal of official prices had a slight direct impact; the policy had little effect on them in the first place since they had limited access to OPVN buying agents, and had often sold all available surplus before the official purchase season.

Grain trade liberalization effects take time to filter down to the rural household, and there is for the moment little hard evidence of improvement<sup>(18)</sup>.

<sup>18</sup> See for example "La Commercialisation Primaire par les Coopératives". Op.cit. 1988.

### 3. Large traders

The impact from the removal of official producer prices and of using a tenders and bids system on large wholesalers was mixed. Compared to a classic official prices situation, both the number of benefitting wholesalers and total rent accruing to them diminished. In the 1985/86 example, their loss was about 110.5 millions CFA. However, the smaller total rent has been distributed under the new system among a smaller number of wholesalers, so that individual rents captured may in fact have been greater than before. Globally, the new situation may well be Pareto-inferior to the former one, because the decrease in transfers among economic groups does not offset losses in economic efficiency due to increased market power concentration.

### 4. Small traders

To the extent that small rural traders used to have access to OPVN direct purchases at official prices, the removal of official prices has meant a definite loss in rent (equal per unit sold to the difference between official prices and retail levels).

The tender and bids system had no positive impact on small traders. Although OPVN was willing to accept bids for relatively small quantities in 1987/88 (150 tons minimum), they have not been able to meet requirements, and, as we saw above, large wholesalers tended to strengthen their market position. Small traders merely continue to act as short term arbitragers, and suppliers to grain wholesalers.

However, grain market liberalization has been favorable to small traders as a group, by reducing transaction costs.

### 5. Urban consumers

The removal of official farmgate prices and the tender and bids approach had very little impact on urban grain prices. Here too, the main reason is that the impact of OPVN grain purchases on market prices is determined by the quantity bought (shift in demand) rather than by the price paid. Of course, the price paid used to determine the amount OPVN could purchase with a fixed budget, but this situation no longer pertains; the amount is limited through agreements with the World Bank, and purchases are mostly donor financed.

The fact that official consumer (ceiling) prices are no longer set does not matter much either. As we explained before, the government retains in any case the option of distributing cereals freely to some groups, or on the basis of a fixed quantity allotment to others.

Here too, the liberalization of grain markets can only have a positive impact, but benefits are not obvious in the short term.

## V. CONCLUSIONS

ASDG policy reforms in grain marketing were undoubtedly well chosen, and all but one of them had positive effects on the economy in general, the exception being the tender and bids system for grain purchases. However, for a variety of reasons difficult to foresee at the design stage, positive effects have been modest over the brief time span considered.

Of all factors directly related to policy reform impact, actual policy implementation was naturally the major determinant. Policy implementation revealed a highly rational pattern of Nigerian response to specific short-term incentives or political objectives (e.g. strategies to fund political patronage or to optimize counterpart fund deposits). When such incentives were sufficiently strong, they overwhelmed the more general ASDG orientations.

Policy reform experience in grain marketing demonstrates that actual implementation, while meeting the letter of an agreement, can create, at least in the short-run, a sizeable gap between intended effects and actual impact, both in the aggregate and distributional senses.

Implementation was relatively straightforward with respect to official prices, timid with respect to market liberalization, collection/diffusion of market prices, and clearly counterproductive in the case of OPVN tenders and bids.

Although we agree with ASDG designers that OPVN stocks should be kept to a manageable size, the reduction of OPVN grain reserves should obviously not be perceived as an end in itself. Placing limits on grain to be bought by OPVN may have been seen by the World Bank as the most practical cost-containment strategy, but it certainly is not an efficient one. The Office may outwardly respect the letter of the agreement, but improvement is slight as long as smaller amounts of grain are bought at higher prices.

As implemented, the tender and bids system has had a negative impact on the economy. Furthermore, the tender and bids system may be amenable to improvement only to the extent that donors financing grain purchases under this system are willing and able to exert pressure to modify current practices.

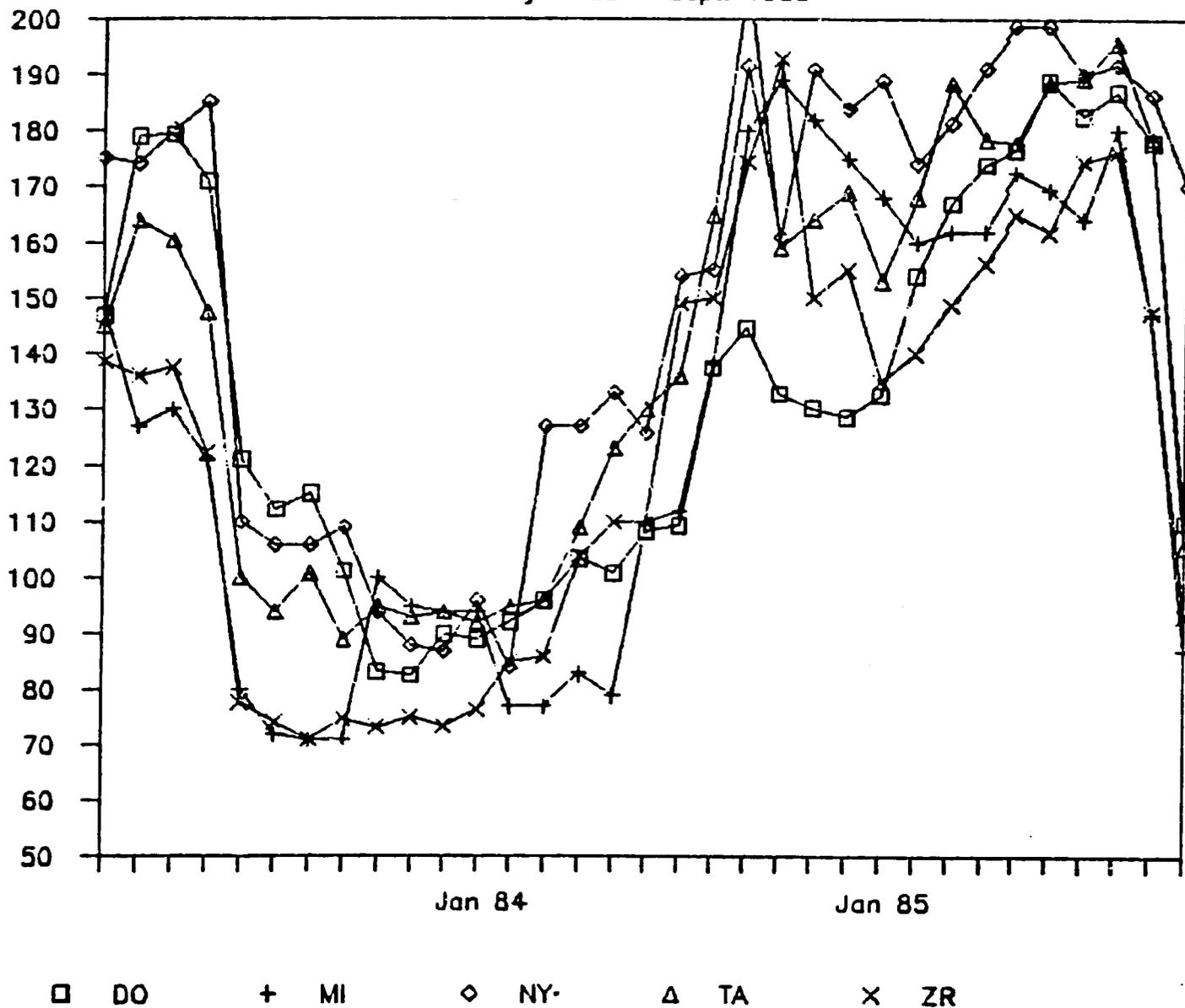
As long as the principle of removing official prices is accepted, one may consider complementing it by direct OPVN purchases at prevailing market prices. The ASDG experience has amply demonstrated that any policy or approach is only as good as the manner in which it is carried out. However, the advantage of direct purchases is that they don't require sellers to pass through a sieve of eligibility. The most stringent requirement is an independent and reliable knowledge of, and adherence, to prevailing market prices.

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GRAPH 1

# Monthly Millët Prices

May 1982 - Sept. 1985

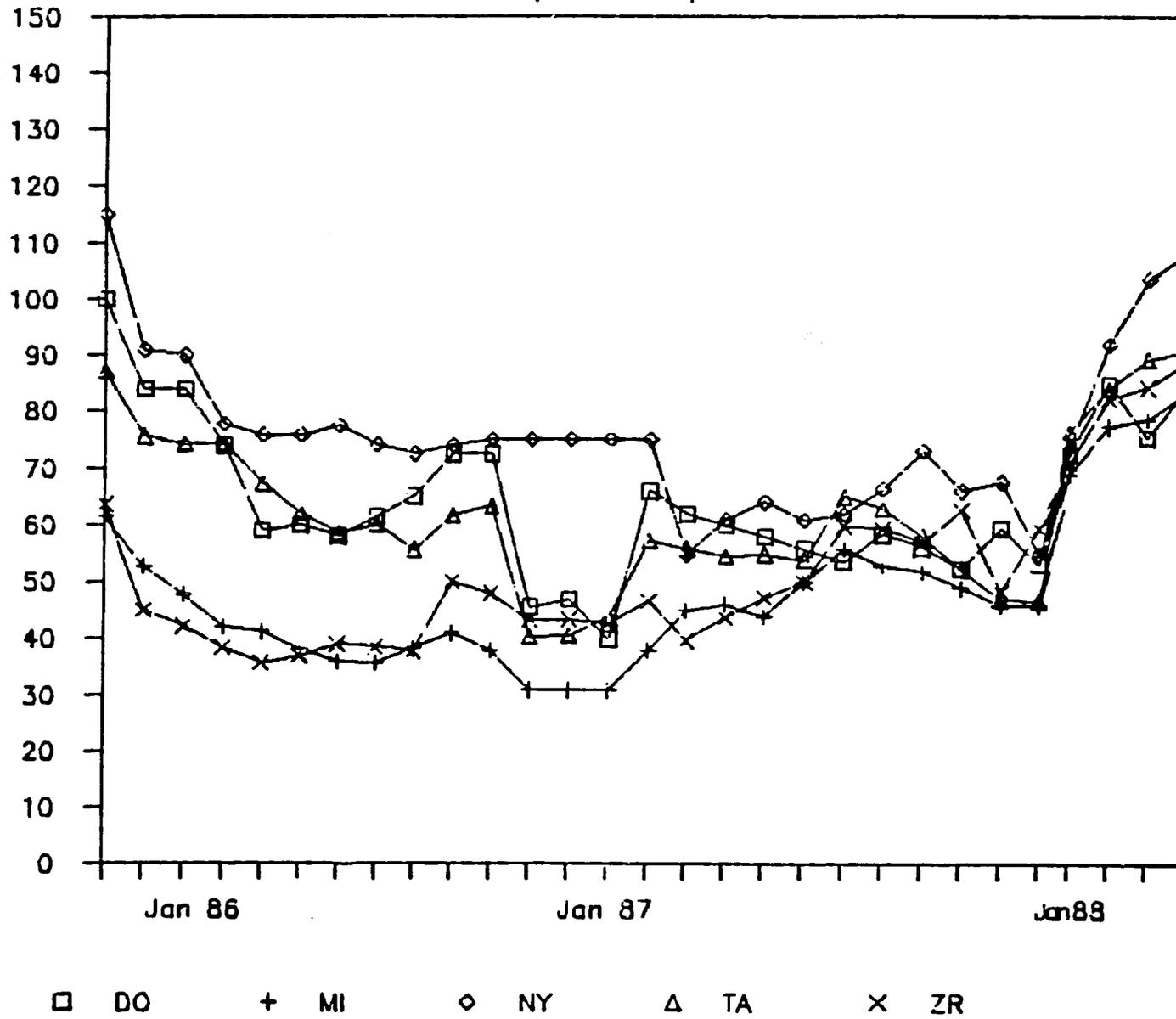


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GRAPH 2

# Monthly Millet Prices

Sept. 1985–April 1988

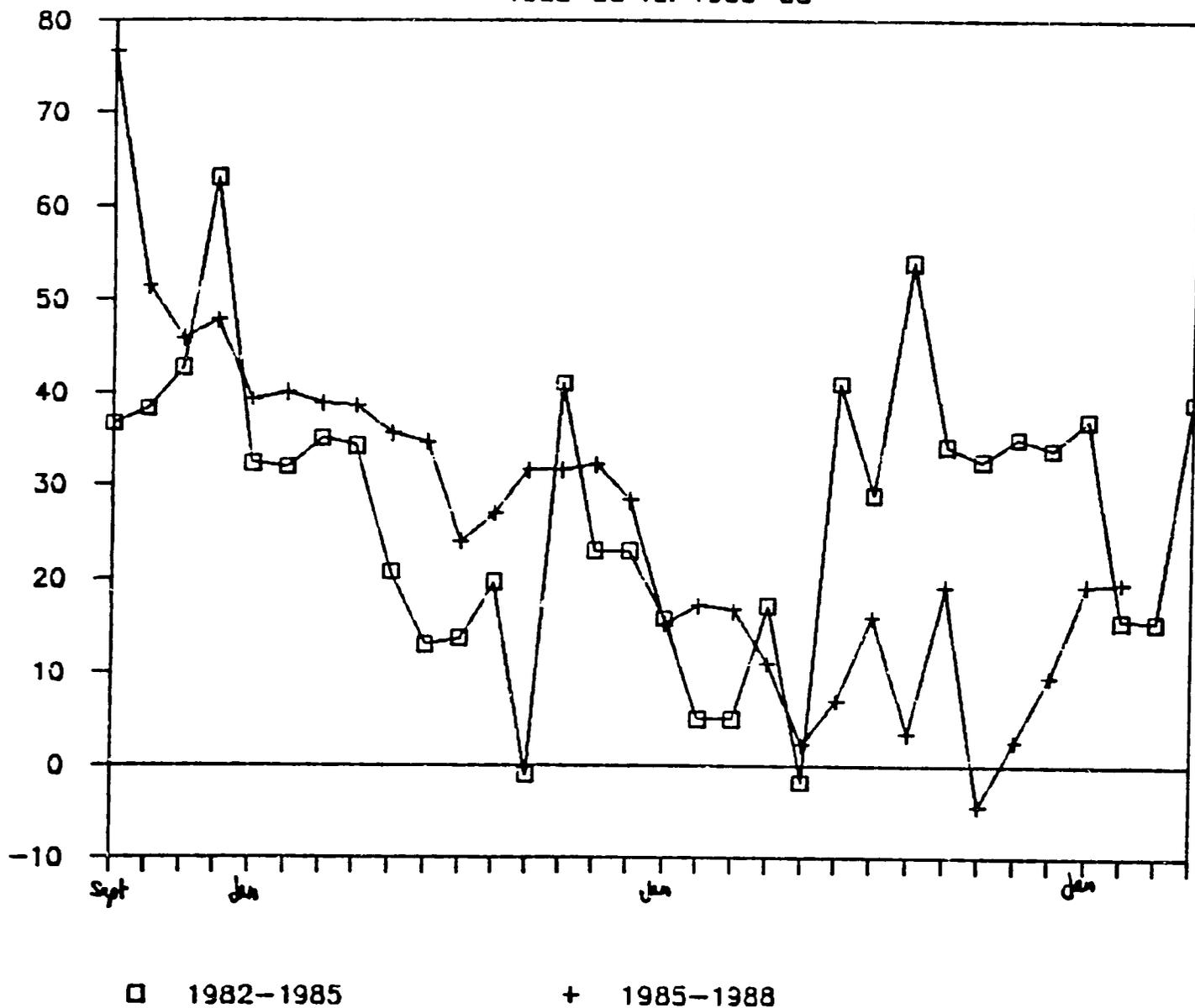


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GRAPH 3

# Marketing Margins, Zinder-Niamey

1982-85 vs. 1985-88



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