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Liberalization of grain markets in Nicaragua

From market substitution to state minimalism

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This article provides an analysis of the impact of economic adjustment in Nicaragua on grain markets and the agricultural sector. It focuses on the transition from the previous model of market substitution which was dominant during the Sandinista period (1979–90) to the model of market liberalization and state minimalism or *laissez-faire* that was implemented by the UNO-government which came to power in April 1990. On the basis of the available – and arguably unreliable – data on prices and marketing margins it is concluded that grain markets are 'low volumes, high profits' markets, being still segmented and inefficient. The private sector did not sufficiently fill the gap that was left by the state. It is suggested that this will not occur in the absence of an initiating (rather than the current minimal 'market accommodating') role of the state. This new role will be crucial in promoting the development of grain markets.

Keywords: Nicaragua, market liberalization, grain markets, prices, marketing margins

Introduction

The economic adjustment and stabilization programmes implemented by the Sandinistas during the period 1988–1990 and by the UNO-government in the post-1990 era have fundamentally changed the structure and dynamics of domestic grain markets. Firstly, this was caused by the withdrawal of the state as a major actor in procurement and food distribution (which had been predominant during most of the 1980s). Secondly, since the establishment of free trade agreements in the Central American region, grain markets were confronted with fierce competition from external markets. While it was expected that private agents would soon replace the state in grain markets provoking a rapid rearticulation, after five years of 'structural adjustment' (albeit under quite particular conditions) the outcome of

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market liberalization proves to be different. It will be shown in this paper that grain markets remained segmented and inefficient, with monopolistic tendencies, representing 'low volumes, high profit' markets, in particular compared with the surrounding Central American countries El Salvador, Costa Rica and Honduras. In order to show this some attention will be directed to the development of producer prices (or farmgate prices) and the marketing margins that were prevailing in these markets. Although data is rather patchy and unreliable, the paper intends to present and then discuss the available sets of price data, their limitations and implications. Finally, it will address the question of which role the state has to play in market development while moving away from the previous forms of market substitution, proposing that grain markets will actually not develop without this initiating role of the state, contrary to the belief in a simple causal relationship between state withdrawal and market development.

The socio-political context of economic reforms in Nicaragua

Although the term 'structural adjustment' is often used in the case of Nicaragua, the economic reforms that took place are a hybrid mixture of the SAPs (Structural Adjustment Programmes) which were implemented in many LDCs during the 1980s and early 1990s, the much more complex transition which takes place in the former socialist block, and a process of post-war reconversion and reconstruction. The first measures of economic adjustment during the 1980s were already taken by the Sandinista government in 1985, with partial price liberalization and some deregulation of grain markets, although the predominant view of the market and the state interventionist model did not fundamentally change.

When by the end of 1987 the war against the *contra* reduced in intensity and the first peace agreements were signed, a second wave of economic reforms was introduced. The monetary reform of February 1988 and the stabilization package of June 1988, although lacking coherence and sufficient foreign finance, were the start of a period of continuing adjustment of the Nicaraguan economy. By late 1987 the Nicaraguan economy had become a generalized shortage economy under siege, in which the Sandinista government – in spite of, or possibly because of – the large-scale intervention in markets, had totally lost control over the economy, which had become dominated by parallel markets and private commercial accumulation. Paradoxically, the programme of stabilization and adjustment executed between 1988 and 1990 restored some of this control of the state over the economy. The Sandinistas, nevertheless, greatly underestimated the deep distortions that existed in the economy and the sensitivity of this war-torn shortage economy. By believing that only a monetary reform would solve all problems, without presenting an overall and coherent reform package, the already existing mega-inflation was boosted to hyper levels without precedent. Some of the major price distortions would be reduced in 1989, when monetary, credit and fiscal policies became more prudent and consistent. However, the economic adjustment took place in an *ambiance* of growing social unrest and disintegration, which would contribute to the unexpected loss of the FSLN in the February 1990 elections.

In spite of the ideological swing that characterized the rise of the UNO-government in Nicaragua, in terms of the economic adjustment that was introduced, a certain continuity cannot be denied. Nevertheless, state withdrawal from grain markets (and export sectors) was pushed much further, while in itself similar monetary and fiscal policies were now being supported by substantial foreign assistance (food donations and balance of payments aid). Social unrest was fed by the continuing hyper-inflation and the socio-political conflicts that arose about privatization issues (state property of land and large enterprises). While the UNO-government managed to halt inflation with the introduction of a more draconic and coherent, stabilization package in March 1991, social unrest would continue to disrupt economic and social life in Nicaragua, with armed occupations of cities (such as Ocotal, Quilali and Esteli), strikes and blockages of roads (1991–1992). These reflected not only the impact of economic adjustment measures, but the overall complex transition that is taking place in Nicaragua, including the demobilization of vast numbers of government soldiers and *contra* forces and their difficult reintegration into civil life.

While the Sandinistas greatly underestimated their lack of control over the economy and the distortions that had grown in a generalized shortage economy under siege, the UNO-government spent the first three years of its reign stabilizing the economy, without entering into a substantial 'structural' adjustment. As a consequence economic contraction has been severe, in particular in the sectors of agriculture and manufacturing industry. Inflation virtually stopped in 1992, with an all decade low record of only 3.9%, while GDP grew for the first time in nine years with 0.8% (CEPAL, 1993). However, taking into account the rapid population growth in Nicaragua, this means that GDP per capita has deteriorated by 10.3% since early 1990 (and even 26.5% since early 1988). Not surprisingly, poverty has increased dramatically and unemployment figures (underutilized and openly unemployed labour) have reached levels of 50–60% of the labour population (CEPAL, 1993).

Grain market liberalization and state withdrawal

During the 1985/1986 agricultural season the first measures of grain market liberalization were implemented by the Sandinista government, in order to regain control over those peasant regions that were effectively lost to the *contra* forces. This also confirmed a somewhat greater consciousness in government circles of the negative effects of state intervention on peasant producers. The markets of the typical peasant crops maize (white corn) and edible beans were gradually liberalized, and although the parastatal ENABAS (*Empresa Nacional de Alimentos Básicos*) remained in a powerful position, the access to parallel markets improved for peasant producers (Spoor, 1994). Nevertheless, this improvement was short lived as mega-inflation particularly affected consumer goods, quickly reversing the terms of trade against the peasantry (Mendoza, 1992). The more commercially produced rice and sorghum (feed) crops were still regulated by the Sandinista government, while for export crops such as peanuts, sesame and soya, the state marketing monopoly remained. ENABAS was given a more commercial function to compete with the private sector from the 1988/1989 agricultural season onwards, losing terrain in most grain markets, in particular with regard to beans. By early 1990 domestic grain markets (excluding those 'grains' destined for exports such as peanuts, soya and sesame) were largely liberalized and deregulated, while the parastatal ENABAS had become 'one more agent' in the market (albeit operating with substantial credit and transport subsidies). The consequences for ENABAS were, amongst other, the underutilization of its storage capacity and the absence of necessary replacement investments. The Sandinista government was not planning, however, to eliminate the 'strategic function' of ENABAS. In the last months of its rule, it even introduced new forms of state supplied distribution networks in which the private commercial sector at neighbourhood level had a much more prominent role than before (the *ENABASitos*), and in its election programme the FSLN had announced to increase substantially the number of state supplied urban food stores.

With the UNO-government the process of market liberalization was pushed much further, although in the first period, ENABAS was given a role in terms of receiving food donations, as part and parcel of the anti-inflationary objectives of government policy. Nevertheless, already during 1991 and 1992 strong pressures were exercised on the government by donors to privatize ENABAS and it was announced that this would indeed take place within the current government period of the UNO (Medal, 1992). Most distributional tasks were eliminated (through privatization, management buy-outs or spontaneous *piñatas*), and the – by Central American standards still huge – company was squeezed in terms of credit.[2] This meant that in the 1991/1992 agricultural season the procurement of ENABAS dropped to only a few per cent of gross national output, practically losing its procurement function that had been so dominant during the 1980s. It drastically cut back in personnel (although holding on to most of its storage facilities), and was limited to an intermediating role to receive food donations or providing drying and storage services to the private sector on a commercial basis, particularly in sorghum.[3]

Furthermore, after an initial continuation of the policy to deliver cheap credit to the peasantry, from the 1992/1993 agricultural season onwards the UNO-government introduced a 'credit squeeze' in production as well as commerce. In particular, the peasant crops maize and beans were affected.[4] As part of the dominant neo-liberal policies of the UNO-government, the National Development Bank (*BANADES*), had to become a commercially operating bank, and virtually exclusively dealing with solvent producers (with high yields and advanced technologies). For traders and commercial enterprises (including ENABAS) it became very difficult to obtain short term credit from the formal financial system, as part and parcel of the monetarist approach towards stabilization the UNO-government took. Although it has been often stated that the credit squeeze had disastrous consequences for production, this is doubtful if one would look to the development of production over the past seasons (even taking into account the great unreliability of the output data in Nicaragua). In an indirect manner it worked negatively for producers, as in the harvest season a much greater need for immediate cash arose, while on the other hand the demand was limited because of restricted consumer incomes and traders with a lack of working capital. It must be emphasized that the lack of credit for working capital for the commercial sector (both domestically operating traders as well as importers/exporters) depressed strongly domestic market dynamics and price levels.

Grain production and market liberalization in Nicaragua

It seems that the first steps of market liberalization (in particular the elimination of movement controls or *tranques*) in the second part of the 1980s in general had a very positive effect on the production of maize and beans. This was not a simple positive supply response, because apart from the short lived improvement of the terms of trade in the years 1986 and 1987, they remained unfavourable to the

[2]The term *piñata* indicated when private assets had been unlawfully 'acquired'.

[3]Data provided by ENABAS in May 1993; interview with the Deputy Director, Ruth Ramirez.

[4]It dropped respectively from 131,640 to 19,840 *manzanas* in maize and from 39,480 to 5,570 *manzanas* in beans; BANADES (*Banco Nacional de Desarrollo*), May 1993, Managua, personal communication.

Table 1 Grain production in Nicaragua (1985/1986–1992/1993)

(X 1,000 Quintals)	1985/1986	1986/1987	1987/1988	1988/1989	1989/1990	1990/1991	1991/1992	1992/1993
Maize	4,241.4	4,703.6	6,160.9	6,572.1	4,857.3	4,375.0	5,079.6	5,000.0
Beans	1,007.8	1,290.0	740.0	1,228.1	1,360.2	1,200.0	1,275.6	1,235.0
Rice	1,774.4	1,725.0	1,502.4	1,405.9	1,629.4	1,597.5	1,550.6	1,837.5
Sorghum	3,346.3	3,769.2	2,408.0	2,407,0	1,680.1	1,545.4	1,849.5	1,985.0

Sources: Ministry of Agriculture (MAG), Department of Information; BCN/MAG/MEDE, 'Ajuste de la Politica Economica y Programa de Reactivacion de la Produccion', September 1993, Managua.

peasantry, but more a response in the expectation that the access to other than the state controlled market would bring future benefits. The drop in the production of rice was caused by a process of prolonged disinvestment of the large commercial rice farmers who belonged to those groups that were strongly opposed to the Sandinista government.[5] The sorghum feed production was affected by the collapse of the poultry agro-industry under the influence of adjustment measures of 1988.

After 1990 the picture is not very clear, also because the most recent data presented here is substantially different from previous data provided by the Ministry of Agriculture. In general there are no consistent time series of economic data in Nicaragua, but agricultural output figures belong to the weakest amongst economic data. Nevertheless, taking into account that the data presented in Table 1 are indeed substantially below previous estimates, we might assume that they are more realistic. If so, the picture for maize and beans is not very positive, while there is gradual recovery in the rice and sorghum sectors. Nevertheless, growth in beans and also maize production is primarily explained by the large increase in peasant farmers as part of the demobilization of thousands of *contras* and government soldiers (who benefited from a government led and UN-supported land distribution programme). In the main basic grain producing valleys, such as Jalapa, maize and beans production (and yields) actually dropped substantially. Rice production increased partly because of renewed incentives to increase production and to invest for the large-scale commercial (irrigated rice) producers, and the shift from many cotton producers in the coastal plains towards rainfed rice (as cotton is currently completely disappearing from Nicaragua).

It is interesting to note that the same source that provided these downward scaled estimates on agricultural production is also projecting large increases (of up to 20% or more) for the 1993/94 agricultural season. However, this is rather questionable as many of the macro policies have not really changed, and agricultural markets have not yet been developed as will be discussed in the next section.

Grain markets: farmgate prices and marketing margins

It is extremely difficult to give a definite picture on how grain markets in Nicaragua are actually developing and, therefore, what is presented here is a critical discussion of some the data that exists on producer prices, consumer prices and marketing margins, in order to approximate the development of market efficiency and articulation. Elsewhere, I have discussed extensively the problems of state intervention and its relation to the emergence of parallel markets (Spoor, 1994).

[5]See for an interesting study on the rice sector in Nicaragua, IICA, 'Situaci6n Actual, Oportunidades y Desafios de la Agro-industria Arrocera en Nicaragua', Managua, October 1993.

One of the main outcomes of this analysis was that in the second half of the 1980s the price gap between the official grain markets and the parallel ones became enormous. It gave rise to unintended private commercial accumulation by traders, who were supposed to be eliminated by the Sandinista market intervention. Peasant farmers and cooperatives still sold in official markets because it gave them access to (more and more limited) subsidized consumer goods, while they were also pressured to sell to ENABAS as part of a 'package deal' (with subsidized credit and free technical assistance). During the economic reforms of 1988–1990, implemented by the Sandinista government most of these price gaps diminished strongly, although grain markets still presented speculative tendencies of particularly urban based wholesale traders, where the traditional rural trading sector had mostly disappeared. In the post-April 1990 period under UNO-rule, grain markets can be characterized as 'low volumes, high margins' markets, in which ENABAS was rapidly withdrawing and new traders filled only partially the space left by the state. Private traders concentrated on the rice market which initially presented rather high marketing margins (Jimenez and Spoor, 1993).

As during the whole of 1990 and the first months of 1991 hyper inflation still continued, measurement of producer prices (in particular in real terms) for this initial period is a haphazard undertaking. For the following period 1991–1993 more data is available on producer and consumer prices, although we will see that the data are of limited use for a solid analysis. In Table 2 some of this data is presented, comparing different state agencies (ENABAS, Ministry of Agriculture and the Central Bank), taken from various publications. There is no unique system of measurement of producer prices and, therefore, sources differ substantially (Table 2).

Since 1992, the Ministry of Economic Development (MEDE) started with a weekly publication of wholesale prices measured in the regional capitals and Managua. As there is substantial spatial spread in these wholesale prices, one can assume that this is also the case for farmgate prices, as traders will take the transport costs into account in order to establish a farmgate price. Furthermore, there is hardly any differentiation between prices on the basis of degrees of humidity and impurity, which would be normal for grain market prices. Most farmgate prices are actually unknown to the government, as for example in rice (sold as dried but unpolished by most producers, *arroz granza seco*) only wholesale prices for polished rice are available. A conversion factor is applied to get the 'farmgate price'. Therefore, the below given producer price data are quite unreliable.

The producer prices in Table 2 are then the basis to estimate (even if it is roughly) the marketing margins between the producer and final consumer levels. In Table 3 price gaps are compared for the Nicaraguan case with three other Central American countries, El Salvador, Costa Rica and Honduras. Again the data present some limitations as there is a mixture of margins between the harvest and non-harvest season (for 1991/1992) and at one single moment (1992/1993 season). The broad picture that arises is that the Nicaraguan grain markets were in the early 1990s operating with mostly higher marketing margins than the other surrounding countries. It has been noted in a recent study that in the maize market the marketing margins were between 52 and 77% for the other CA countries, while in Nicaragua during the 1991/1992 this seasonal margin was between 192 and 215%, dropping in the next season, but still remaining substantially higher than in the surrounding countries (Hernandez, 1993). In the beans market this phenomenon was partially present, although the sudden drop in prices in early 1992 (because of

Table 2 Producer prices maize, beans and rice: Nicaragua (1991–1993)

	Maize			Beans			Rice		
	ENABAS	MAG	BCN	ENABAS	MAG	BCN	ENABAS	MAG	BCN
March 1991	30.0	25.0	–	108.0	102.0	–	36.4	39.5	–
April	30.0	25.0	–	110.0	102.0	–	39.7	39.5	–
May	30.0	25.0	–	100.0	103.0	–	44.8	39.5	–
June	30.3	25.0	–	100.0	103.0	–	44.8	39.5	–
July	35.0	25.0	–	100.0	100.0	–	47.1	39.5	–
August	35.0	25.0	–	100.0	100.0	–	44.8	39.5	–
September	40.0	25.0	–	100.0	93.0	–	56.0	40.0	–
October	30.0	30.0	41.3	100.0	92.0	50.0	56.0	40.0	50.0
November	30.0	30.0	41.3	100.0	90.0	50.0	58.8	40.0	45.0
December	25.0	30.0	41.3	100.0	90.0	50.0	58.8	45.0	50.0
Jan 1992	30.0	36.3	40.0	70.0	90.0	50.0	58.8	58.8	55.0
February	35.0	36.3	40.0	70.0	90.0	55.0	58.8	58.8	55.0
March	35.0	36.3	35.0	40.0	70.0	55.0	60.2	58.8	55.0
April	35.0	30.0	35.0	40.0	50.0	55.0	61.6	60.0	55.0
May	35.0	30.0	40.0	40.0	50.0	55.0	61.6	60.0	55.0
June	35.0	30.0	40.0	40.0	50.0	55.0	61.6	60.0	55.0
July	45.0	30.0	40.0	50.0	50.0	55.0	64.4	60.0	55.0
August	50.0	60.0	56.7	55.0	56.0	57.0	64.4	60.0	66.0
September	55.0	53.5	60.0	60.0	57.0	60.0	64.4	65.0	70.0
October	44.0	–	62.5	70.0	–	65.0	61.6	–	72.5
November	41.0	–	40.0	96.0	–	109.5	56.0	–	67.0
December	35.0	–	38.5	110.0	–	121.0	58.8	–	67.5
Jan 1993	40.0	40.0	50.0	125.0	113.0	121.0	61.6	56.5	66.0
February	45.0	42.0	55.0	120.0	169.8	125.0	61.6	66.6	70.0
March	55.0	42.6	60.0	115.0	148.8	140.0	64.4	65.4	75.0

Sources: MAG, Department of Information; BCN, 'Indicadores de Actividad Economica', 3 (13) (1993); ENABAS, Department of Statistics.
Note: Exchange rates: 03/91–01/93: 5:1 (C$:US$); 01/93 → 6:1 (C$:US$).

boosting production and severe export restrictions at that moment) put heavy pressure on these margins. Finally, the rice market seems to have operated with comparable efficiency on a Central American level.

The overall high marketing costs in Nicaragua, measured in rather crude simplicity in order to understand only the broad trends, cannot be attributed solely to inefficiency of Nicaraguan grain markets. Very few private or public investments are undertaken, and traders consider grain trade as a 'high risk' operation, trying to include sufficient profits in their marketing margins (Tijerino, 1993). Different agents in the marketing chain are involved in this, such as truck dealers, wholesalers, processors and retailers. Like a study that was funded by USAID on Nicaraguan grain marketing systems stated:

> Wide marketing margins are found to exist among all types of intermediaries. These results suggest that serious problems exist for farmers in the grain marketing system of Nicaragua since marketing functions are absorbing an unnecessary portion of consumers' food expenditures. They may also make prices more volatile and reduce production responses to fundamental supply and demand shifts. (CARANA, 1993.)

There are also substantial real marketing costs in Nicaragua that make these margins large (although they seem to have reduced in the 1992/1993 season, see Fig 1). The road structure is only of reasonable quality in the coastal pacific areas,

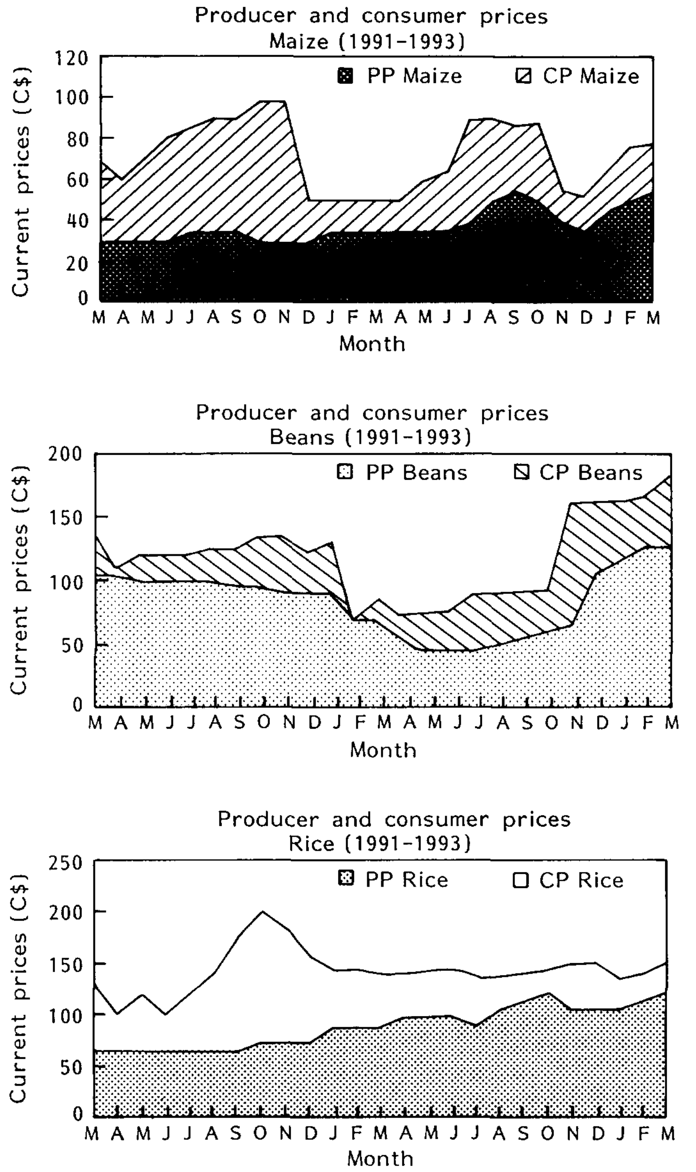

Figure 1

while major productive valleys such as Jalapa, la Vigia and Pantasma, and the tropical humid area of Nueva Guinea, are far from urban centres and sometimes difficult to reach. Therefore transport costs are substantial in Nicaragua. Finally, while this was already a problem in the 1980s, rural insecurity has in fact increased, making the transport of grains sometimes a risky business. Prices include a premium of insecurity (to be compared with the premium of illegality during the reign of parallel markets).

Table 3 Producer and consumer prices Central America (1991–1993)

		Maize		Beans		Rice		Urea	Diesel	Wage
		1991/1992	1992/1993	1991/1992	1992/1993	1991/1992	1992/1993	1992/1993	1992/1993	1992/1993
Costa Rica	(1)	184	179	–	549	257	255	259	–	–
	(2)	0.29	0.29	–	0.71	0.58	0.51	–	1.09	6.05
El Salvador	(1)	168	185	464	618	228	217	268	–	–
	(2)	0.27	0.22	0.52	0.74	0.60	0.56	–	0.88	2.66
Honduras	(1)	165	184	480	597	167	176	236	–	–
	(2)	0.25	0.23	0.40	0.79	0.68	0.63	–	1.16	2.28
Nicaragua	(1)	130	168	391	525	261	238	308	–	–
	(2)	0.40	0.23	0.53	0.64	0.67	0.51	–	1.12	1.62

Sources: MEDE/CORECA, 'Precios de Insumos y Productos Agropecuarios en Centro America', March/May 1993; Julio R. Hernandez, 'Elementos para un Sistema de Financiamiento al Pequeño Productor via Empresas de Comercialización', May 1993, Managua.
Notes: (1) Producer price in US dollar/metric tons.
(2) Consumer price in US dollar/kg; the diesel price is in US dollar/gallon; the wage rate is in US dollar/day; The 1991/1992 figures are taking into account a seasonal margin, with Dec. 1991 Producer Prices and July–Sept. 1992 consumer prices; the 1992/1993 data are taken for the month March 1993 (end of season).

Grain markets and the private sector

After the withdrawal of the parastatal ENABAS private trade has not filled the gap left by the state in the marketing system. Only in the sorghum and rice markets, with commercial capital already strongly present in production and processing of these crops this was much more the case than in the peasant crops maize and beans. The high marketing margins that have been observed in the previous section are (apart from the real marketing costs) caused by an insufficient number of traders, a very limited storage capacity (warehouses and silos) of the private company and the near-absence of storage facilities at farm level. Grain trade is seen as a risky business by private traders, but also by 'alternative' trading companies such as the UNAG-linked ECODEPA, which concentrates mainly in coffee, sesame and agricultural inputs. Furthermore, private trading companies have not acquired any substantial storage or processing facilities from the to be privatized ENABAS, and are suffering from a great lack of working capital. The on-farm storage has somewhat improved over the last few years, through programmes of subsidized small silos, restoring previously existing habits of keeping a reserve apart from the home-consumption. Nevertheless, most producers have to sell at harvest time substantial shares at low prices, although storage of grain and a more spread sales pattern could well balance against the costs to keep the grain.[6] In a survey that was undertaken by the author in February 1989 and February 1993 under 17 producers and 10 cooperatives in Jalapa and Jicaro (North-eastern Segovias), it was found that there was a substantial increase in the amount of grain that farmers indicated as home-consumption (part of it destined for later sales.)[7]

In terms of improving market transparency the government launched in May 1993 (although the idea had been circulating for quite a while) a grain exchange (*bolsa agropecuaria*), initiated through ENABAS but to be run by representatives of the private sector. In this grain exchange, which in practice has only played some role in the sorghum market, it becomes possible to buy and sell certificates representing grain stocks stored in grain warehouses (*depositos generales*), that until then were still property of ENABAS. The privatization process of ENABAS, including the initiation of this new network of general storage facilities that serves individual producers as well as cooperatives, has been very slow until now. Nevertheless, improved storage, drying and processing facilities of grain for producers and traders, and overcoming the financial limitations commercial transactions have encountered as a consequence of the stabilization policies are necessary preconditions to improve the functioning of the grain market in Nicaragua.

Role of the state in market development

Although for three years the role of the state in market development was mostly ignored by the UNO-government, during 1993 it could be observed that the government and international donors are recognizing that the pure *laissez-faire* approach to grain markets in Nicaragua will not lead to spontaneous market development (BCN/MAG/MEDE, 1993). However, not many concrete steps have been undertaken in this direction. Therefore, in concluding this paper a number of policy measures that are of immediate importance are identified, which could lead

[6]See Medal (1993) and Hernandez (1993).
[7]Spoor (1994). A similar conclusion was drawn by Lewin *et al.*

to improvement of the structure and dynamics of the grain market. Firstly, the statistical information system that relates to the agricultural sector (farmgate and wholesale prices at a regional basis, production volumes, yields, sown and harvested areas) is very weak. While the Sandinistas still had a decentralized system of the statistical office INEC, supported by the regional and district officers of the Ministry of Agricultural Development and Agrarian Reform (although most figures never appeared in public), this was dismantled in 1988, as part of the state compression (*compactacion*). When the new government came in place ministries lost much of their trained staff in this field, and any still existing documentation with them. The sources of statistical information were therefore severely weakened. Agrarian statistics, mostly available at aggregate regional or national levels are very unreliable. The gathering of statistics is furthermore done by a number of state agencies, with different methodologies or data sources (such as the Ministry of Agriculture, ENABAS, Central Bank, Ministry of Economic Development), with outcomes that are widely varying. In terms of relevant information about grain markets, particularly prices (related to qualities and quantities), the situation is even worse. Most often the government is using very broadly estimated producer prices at a national level, which in the case of a relatively large country as Nicaragua is without any significance (Table 2). That maize is produced in the valley of Murucucu, very far from any important urban market, or in an area nearby Managua, creates a large spatial variation in farmgate prices. Therefore, although the government has been much concerned with 'getting the prices right' (cutting subsidies, aligning with border prices, devaluations), emphasis should have been given to 'getting the right prices'. A major investment in a well functioning market information system (as a joint public–private operation) should be one of the priority areas of the government in terms of market development. The weakness in the current system is also visible in the implementation of the current price bands for grains, valid for extra-regional imports that should protect domestic markets against large international price fluctuations. This needs a fluent system of price and volume information, relating to domestic and international markets and from the customs offices. Although some improvements are being made in the informatization within the Ministry of Economic Development, there should be an inter-ministerial effort to improve rapidly the whole statistical market information system.

Secondly, the storage and processing capacity of ENABAS can indeed become the basis of the new system of general warehouses, where private producers can hire services for storage, drying and processing of their grain. These grains can then be traded through a market in certificates and contribute to a more transparent price formation (as has been shown in other Central American countries). At this moment, much is still lacking with regards to the legal framework of this new system and, therefore, in practice it has little impact. The government should also promote the sales (at favourable terms) of existing storage capacity in the regions to associations of producers, who could in that way improve their market power. Financial incentives must be provided through formal channels to improve private storage and processing capacity in the grain market, and more leeway is needed in terms of short term commercial credit to operate in these markets. The current absense of the latter, as was noted above, has had a very negative impact on the dynamics of the grain market in Nicaragua. Finally, the role of ENABAS has to be redefined in which it is well possible that still a public role needs to be kept, which relates to price stabilization.

There is a number of NGOs (ranging from foreign funded NGOs to local producer associations, including locally established grain storage facilities or *bancos de granos*) that also need careful attention, as they might play an important role in the future grain market development.

Thirdly, apart from establishing a new framework of technology transfer and agricultural research (INTA) and a National Land Cadaster that can contribute to solve at least some of the existing conflicts on ownership of land, the government should actually promote 'market development', in the grain market, but also in a number of agro-export markets. Not only in rapidly improving the legal institutional framework in which market operations have to take place, but also in investing in rural marketing infrastructure and providing structural incentives to the private sector to improve their commercial capacity. In Nicaragua the private sector is hardly investing in commercial infrastructure, apart from the supermarket chains that have flourished since the UNO came to power. Short term profit maximization is widespread, which, taking into account the social tensions and existing insecurity, is a rather understandable phenomenon. A greater presence (contrary to the mainstream tendency of state compression) of the state, leading to more political stability, is therefore necessary in order to stimulate the private sector to develop a more long term perspective, through which it can contribute to increased market efficiency and replace the vacuum which was created by the rapid withdrawal of the state from agricultural markets.

References

BCN/MAG/MEDE (Central Bank, Ministry of Agriculture, Ministry of Economic Development) (1993), Ajuste de la politica economica y programa de reactivición de la producción, Internal Document, Managua, September.

Carana (1993), Nicaraguan marketing systems, Consultancy Report for USAID, p.38, Mexico/ Arlington.

CEPAL (1993), Nicaragua: evolución economica durante 1992, Internal Report, Mexico, April.

Hernandez, J. R. (1993), Elementos para un sistema de financiamiento al pequeño productor via empresas de comercialización, Consultancy Report for IDB, Managua, May.

Jimenez, M. L. and Spoor, M. (1993), Cambios estructurales en el mercado de granos básicos en Nicaragua, CIES/ESECA Working Paper, Managua, May.

Lewin, E., Hernandez, J., Lolkema, H. and Wattel, C. (1993), Apostando a la comercializatión cooperativa, Consultancy Report for SIDA, DGIS/NORAD, Managua, March.

Medal, J. L. (1992), Rol del estado en la comercialización de granos básicos, Consultancy Report for RUTA II (Regional Unit for Technical Assistance), Managua, August.

Mendoza, O. (1992), Distribución del ingreso y seguridad alimentaria en un ambiente de ajustes cambiarios: Los precios relativos en Nicaragua (1986–1992), CIES/ESECA Working Paper, Managua, November.

Spoor, M. (1994), Agrarian transformation in Nicaragua: markets, peasant rationality and choice of techniques, ISS Working Paper Nr.165, The Hague, January.

Tijerino, A. C. (1993), La formación de precios de maiz y frijol desde el productor de Jalapa y el Jicaro hasta el comerciante mayorista de Managua, B.Sc. thesis, UNAN, Managua, December.