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July 15, 1983

Dr. Glen Purnell, Leader
Procalfer
OICD/USDA/Lisbon
U.S. Embassy in Lisbon, Portugal
APO, New York 09678

Dear Glen,

Enclosed is a copy of the report "Agricultural Subsidies in Portugal: Their Impact on Farm Income and Consumer Cost in the Context of Accession to the European Community" which I co-authored with Tim Josling, Food Research Institute, Stanford University. The report is ERS/USDA's research on the CAP and Portuguese subsidies and constitutes part of the work by the Policy and Economic Studies Team in 1983.

It was my intention to personally present the report to you and Jim Black as well as to officials of AID/Lisbon and of the Portuguese Ministry of Agriculture, Forests and Food (MAFA). Unfortunately, my imminent departure for Upper Volta as an AID economist rendered the planned July 15-22 trip to Lisbon impractical. I regret not having the opportunity in July to discuss with you and other interested officials the results and policy conclusions of ERS work in the context of Procalfer and of current policy decisions taken in late June by the new Portuguese Government to reduce agricultural subsidies. However, I am making arrangements with AID and USDA to be in Portugal on temporary duty for ERS for a week during the August 29-September 9 period to present the report on the CAP and Portuguese subsidies and, more importantly to go through the report in greater details with members of MAFA's work group on subsidies, Eng. Maria Joao Pastor Fernandes, Dr. Maria Joao Abecasis and Eng. Francisco Oliveira Baptista.

I am looking forward to meeting you in September.

Sincerely,

Tham V. Truong

THAM V. TRUONG
Economist
Western Europe Branch
International Economics Division

cc: Charles Hanarahan
Bill Hoofnagle
Reed Friend
Corey Edwards
John Steele

**Agricultural Subsidies in Portugal: Their Impact on Farm
Income and Consumer Cost in the Context of Accession
to the European Community**

by

**Tham V. Truong
(Economic Research Service
United States Department of Agriculture)
and Timothy E. Josling
(Food Research Institute
Stanford University)**

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Preface

Agricultural subsidies have played a major role in Portuguese policy towards the farming sector in the past few years. This study is intended as a contribution to the understanding of this role through an assessment of the impact of subsidies on a variety of farming systems. It is part of an ongoing research effort carried out by a team from the Universities of Arizona and Stanford and the Economic Research Service, U.S. Department of Agriculture. This effort in turn comprises the Policy and Economic Studies component of a broader program of technical assistance under an arrangement between the Government of Portugal and the U.S. Agency for International Development.

The Policy and Economic Studies team completed, in 1982, a study of 19 farming systems in the grain-livestock-oilseeds sector in an attempt to identify areas of comparative advantage in Portuguese agriculture in the context of probable EC membership. As a part of that exercise, the net impacts of the range of policies affecting these systems was identified. At the same time a group within the Ministry of Agriculture in Lisbon was working on an examination of particular subsidies in the light of their compatibility with EC regulations and their effectiveness in achieving their desired objectives. This present study on subsidies was originally conceived as a bridge between the comparative advantage studies with its emphasis on actual farming systems and the Ministry subsidy work which looked at individual programs. As a consequence the Ministry listing of subsidy is taken as a starting point and the impact on profitability and efficiency is assessed by relating these subsidies

to the detailed farm system budgets developed for the comparative advantage study.

As sometimes happens, events do not wait for the conclusion of research studies. In late June, the new Government introduced sweeping economic measures which, among other things, cut back considerably the agricultural subsidy program. The relevance of the study was changed from a review of on-going programs which would require modification over a period of time to a timely statement of the nature of the dramatic changes brought about by the new policy. The original draft of this study has been modified to reflect this turn of events, but the reader may still spot places where it appears that the authors were anticipating more gradual change.

The authors received excellent cooperation from Eng. Jose Santos Varela and Armando Sevinate Pinto of the Planning Cabinet, Ministry of Agriculture, Forests and Food, and from the 'subsidies group' in the Ministry, Maria Joao Pastor Fernandes, Maria Joao Abecasis, and Francisco Oliveira Baptista. In addition, Mark Langworthy and other members of the PES team gave considerable assistance in integrating the subsidy information with the system budgets. The work was carried out by Tham Truong under a research plan jointly devised by the authors.

Executive Summary

Subsidies have been an important aspect of policy towards Portuguese agriculture. Agricultural subsidies amounted to 26 percent of gross agricultural product in 1981. Their elimination will in all instances significantly reduce these activities' private profits or increase losses. For the farm sector activities, the impacts of the elimination of all subsidies on private profits will be, in general, the most significant among the livestock production activities due to the importance of the feed subsidy. The significance of the subsidy effect will also be, in general, more important among the grain and oilseed production activities than for milk production because of significant price supports granted to corn, wheat and sunflower producers and the greater use of subsidized fertilizer in these systems.

The impacts of the elimination of all agricultural subsidies on private profits would also be more significant in the wheat milling and sunflower crushing activities than in other post-farm activities. That situation is due to significant subsidies on wheat and sunflower seeds purchased by millers and sunflower crushers.

The adoption of CAP prices would, other things being equal, raise or lower private profit depending on whether CAP prices are higher or lower than Portuguese prices. The adoption of 1981 CAP prices would raise private profit above the 1981 levels for milk and sunflower production activities since CAP prices for raw milk and sunflower seeds were, in 1981, higher than Portuguese prices. The impact of the CAP price effect would be to lower private profits from the 1981 levels for the other nine farm sector activities producing corn, wheat, beef, pork, lamb and poultry.

Among the post-farm activities, the CAP price effect would be negative for cheese production and positive for the rest of the post-farm systems. The EC price was, in 1981, lower than the Portuguese price in the case of cheese while the opposite holds true for milk, butter, wheat flour and sunflower meal. The adoption of CAP prices would have little impact on slaughter houses since they merely provide a service.

The impact of the elimination of agricultural subsidies on private profit is either offset or reinforced by the effect of the adoption of CAP prices. Among the farm sector activities, the estimated positive CAP price effects more than offset the loss due to the elimination of subsidies and would lead to higher private profits for the traditional milk, irrigated and non-irrigated sunflower production activities. For all other farm sector activities, the impact of negative CAP price effects reinforces that of negative effects of subsidy removal and would significantly lower these activities' private profits. The fall in income would be most dramatic for the large scale broiler production and beef feedlot activities.

Among the post-farm activities, the adoption of CAP price will lead to lower private profit, thus, reinforcing the impact of the removal of the credit subsidy in the cheese production activity. By contrast, for the milk/butter, wheat milling and sunflower crushing activities, the adoption of the CAP prices will raise private profits which will more than offset the negative impacts which will arise from the elimination of agricultural subsidies.

All nine dairy and meat systems considered in the study receive significant subsidies. However, only the milk/butter-traditional milk, milk/butter-advanced milk and lamb-JNPP systems were profitable in 1981. Furthermore, the total subsidies received by producers in 1981 were more important (in relative terms) for the unprofitable systems than they were for the three profitable systems. Given the relatively greater importance of agricultural subsidies in the six unprofitable systems, the elimination of those subsidies would lead to relatively larger decreases in incomes for the systems that were already unprofitable in 1981 than for the profitable ones.

The adoption of CAP prices would appear to increase private profits for the milk/butter, pork and poultry systems. It will decrease private profits for the cheese, beef and lamb systems. However, only in the case of the milk/butter-traditional milk system would the higher CAP price be significant enough to offset the negative effect of subsidy removal and lead to increased private profit above its 1981 level. For the remaining eight systems, the CAP price effects would be either positive but less significant than the negative subsidy effects or negative. Thus, in the cases of the cheese, beef, lamb, pork and poultry systems, private profits would decrease (or losses increase) from their 1981 levels with the elimination of subsidies and the adoption of CAP prices.

Among the commodities included in this report, there were, in 1981, direct consumer subsidies only for milk products. The elimination of consumer subsidies would lead to significant increases in consumer prices for pasteurized milk, UHT milk and skim milk powder. These consumer price increases in pasteurized and UHT milk would be exacerbated by the

adoption of CAP prices since the EC prices were, in 1981, higher than Portuguese prices for pasteurized and UHT milk. The consumer price increase in skim milk powder would however be dampened by the adoption of CAP prices.

The adoption of CAP prices would, other things being equal, raise consumer prices for butter, wheat flour, bread, pork and poultry. EC price levels were, in 1981, lower than Portuguese for cheese, refined sunflower oil, beef and lamb. The adoption of CAP prices would, other things being equal, lower consumer prices for these products.

An acceptable subsidy policy will normally attempt to achieve both income support and economic efficiency objectives. Subsidies granted to economically efficient systems provide income support and incentives to efficient producers. However, when subsidies are granted to inefficient systems, the support to producer income constitutes an economic as well as a budgetary burden. Using the 1981 cost and price data, it would appear that twelve systems (among the 19 systems which are analyzed in this report) are economically efficient at CAP price levels. Removal of subsidies may be appropriate for the milk/butter-traditional milk, milk/butter-advanced milk, mechanized corn, irrigated sunflower, sunflower crusher systems, since this would reduce budgetary burdens but not eliminate private incentives in these system. In addition, the adjustment to CAP prices can also be accomplished without removing private incentives in these systems.

By the same token, subsidies also provide incentives to the economically efficient wheat (A and B soils) and lamb-JNPP systems. The

reduction or even the elimination of agricultural subsidies which impinge on these two systems would relieve budgetary pressures without removing private incentives. The adoption of CAP prices however might have to be more gradual for these two systems and some continued aid may need to be granted to wheat (A and B soils) and lamb (JNPP) producers to maintain private incentives.

The elimination of agricultural subsidies would remove private incentives for wheat millers and sunflower (non-irrigated) producers who would be efficient in an EC setting. However, if the elimination of subsidies is accompanied by the simultaneous adoption of CAP prices, positive private incentives could be preserved while budgetary pressures would be alleviated.

More assistance could be granted to the cheese-traditional milk system since there was, in 1981, price disincentive in a system which will be efficient under EC conditions. The increase in subsidies to that system may have to be through arrangements for the support of the cheese market under the CAP.

Seven out of the 19 systems analyzed in this report appeared economically inefficient. The inefficient systems include the meat (except lamb-JNPP), traditional corn and wheat (C and D soils) systems. Subsidies granted to these inefficient systems are not economically sound. They should therefore be replaced by investment policies which are conducive to better technologies and more appropriate structural organization leading toward greater efficiency in these sectors.

Portuguese agricultural subsidies, in particular those for fertilizer and feed, are in the process of being phase out. These subsidies are incompatible with EC regulations and would in any case have to be eliminated upon Portugal's accession to the EC. With some institutional and policy changes, it appears that the Portuguese credit subsidy could be made compatible with EC regulations. It does not appear that Portugal will have much flexibility concerning alternatives to those subsidies which are incompatible with EC regulations. However, decreases in producer income due to the reduction or elimination of the feed and fertilizer subsidies, as well as changes in the level of price supports, can be offset to a limited extent by increasing the credit subsidy.

Portuguese consumer subsidies on pasteurized and UHT milk and skim milk powder are also in the process of being reduced. The elimination of these subsidies will significantly increase consumers costs. An alternative to these current consumer subsidies would be more limited consumer subsidies which are geared to low-income groups. The Community has an interest in maintaining milk consumption, and might be persuaded to assist in financing appropriately focused policies in this area.

I. Introduction

The total cost of direct subsidies to agriculture in 1981 amounted to 38.5 billion escudos (esc) or 26 percent of gross agricultural product.

1/ These significant transfers of financial resources from other economic sectors to agriculture were intended for the support of farmer's income and the abatement of consumer food cost. 2/ Portugal's ability to continue such subsidy policies will, however, change dramatically with membership in the European Community (EC). National aids to agriculture are in general in violation of EC regulations, in so far as they affect trade and distort competition with other member countries. 3/ There is, therefore, a need to address the issue of agricultural subsidies and their impacts on farm income and consumer cost as a part of the implications for Portuguese agriculture on entry into the EC.

Quite apart from the legal and institutional issues of compatibility with EC rules, the system of subsidies has been under review for internal reasons. Chief among these reasons has been the growing cost to the public purse. At a time when macroeconomic conditions stress the need for control of budget deficits, expensive subsidy systems for particular sectors are candidates for cuts. A major step in this direction has been taken by the new Government in late June. Subsidies on fertilizer, mixed feed and liquid milk have been dramatically curtailed. The impact of a continuation of this process of removing state aids to agriculture and to the food consumer is therefore of interest even outside the context of accession to the Community.

The present study proposes to identify and quantify each agricultural subsidy which impinges on selected farm and post-farm activities, measure the relative importance of each agricultural subsidy on private profit, and assess the combined impact of the adoption of the Common Agricultural Policy (CAP) prices and the elimination of Portuguese agricultural subsidies on farm income and consumer cost.

The study uses the activity budgets which were constructed for selected systems by the Policy and Economic Studies (PES) team in 1982. 4/ Thus, price and subsidy information used in this report, as well as cost and revenue data, are for 1981. While the PES team 1982 report combines agricultural and nonagricultural taxes and subsidies in the analysis, the present study deals exclusively with agricultural subsidies. These subsidies are narrowly defined as direct transfer payments going from the Portuguese treasury to a particular agricultural sector or agent and which are identified as such in MACP official documents. 5/ Subsidies are classified, in this study, into five categories:

- M1 = output subsidies on sale of farm products
- M2 = input subsidies on purchase of material inputs
- M3 = domestic factor subsidies on use of capital, labor and land
- M4 = total subsidies received by the producer (i.e. the sum of M1, M2, and M3)
- M5 = consumer subsidies (i.e., direct transfer payments which take place at the distribution level).

This subsidy classification enables the assessment of the removal of all or of particular types of agricultural subsidies on producer income and

consumer cost. The emphasis in the study will be on the effect of the removal of all subsidies, though data are presented in a manner which allows the reader to calculate easily the impact of partial subsidy removal.

Besides assessing the effects of the elimination of agricultural subsidies, the impacts of adoption of EC prices on private profit and consumer cost are also included in this report. More specifically, the study estimates changes in 1981 private profits for the 19 systems analyzed in the PES team report and in consumer costs under the following three scenarios:

Scenario I: 1981 Portuguese prices without Portuguese subsidies,

Scenario II: 1981 CAP prices with Portuguese subsidies,

Scenario III: 1981 CAP prices without Portuguese subsidies,

As pointed out in the 1982 PES team report, the CAP operates in general at the wholesale point by influencing the cost of imported commodities that compete with domestic output. The costs of these imports will be directly influenced by the threshold prices (if imports come from third countries) or by the intervention prices in other EC member states (if imports originate there). 6/ To generate EC prices which would be comparable to 1981 Portuguese prices, this report uses the same assumptions as in the 1982 PES team report. For commodities presently in surplus in the EC (wheat, beef, and dairy products) the predominant Portuguese import price will be the EC intervention price plus transport costs from major EC ports and unloading costs in Portugal. For commodities currently in deficit in the EC (corn, lamb, and oilseeds) and

for those with irregular surpluses (hogs and poultry) the dominant price will be the threshold price as set under EC rules--again including unloading costs. 7/

Given the scenarios defined above, the effect of the elimination of all agricultural subsidies on private profit and consumer cost (the subsidy effect) can be assessed, other things being equal, by comparing actual 1981 private profit and consumer cost to those which would prevail under Scenario I. By the same token, comparisons of actual 1981 private profit and consumer cost to those which would prevail under Scenario II will enable, other things being equal, an assessment of the impact of Portugal's adoption of CAP prices on private profit and consumer cost (the CAP price effect). The CAP price effect can also be computed as the differences of private profits and consumer costs between Scenarios III and I.

The combined impact of the 'subsidy' and 'CAP price' effects will shed light on the EC 'accession effect' which is caused by the elimination of Portuguese agricultural subsidies and the adoption of CAP prices. The accession effect can also be computed as the differences between Scenario III's private profit and consumer cost and those which prevailed under actual 1981 conditions.

This study is organized into eight sections. The next section of the report (Section II) presents estimates of different types of subsidies which impinge on farm sector activities and estimates of changes in those activities' private profits under the three scenarios described above.

Sections III and IV repeat the same exercise for post-farm activities and for nine dairy and meat systems respectively. Section V considers the issue of consumer costs or savings under the various price and subsidy scenarios. Section VI discusses subsidy policies in the objective of providing incentives to socially profitable systems. Section VII considers the question of alternative subsidy systems under the perspective of CAP regulations. The principal conclusions of the report will be summarized in Section VIII.

II. Changes in private profits of farm sector activities under alternative price and subsidy scenarios.

A quantification of the impact of those agricultural subsidies which are identified by MACP and which impinge on farm sector activities are presented in Table I for 13 farm sector activities. 1981 private profits (farm income) of the 13 farm sector activities are also presented in Table 1. More detailed description of these subsidies and their relationship to the PES activity budgets is given in Table I of the Appendix.

All eight milk, grain and oilseed production activities have positive 1981 private profits. Among the five meat production activities, only the sheep production activity has positive 1981 private profit. Agricultural subsidies represent significant portions of private profits in all 13 farm sector activities. These subsidies ranged, in 1981, from a low of 46 percent of profit in modern milk production enterprises to a high of 1,694 percent of profit in large scale broiler production. All

Table 1--Subsidies and Private Profits in Farm Sector Activities, 1981.

Farm Sector Activity	Activity's Private Profit -Esc/Unit	MACP Subsidy Classification Description	Code	Type of Subsidy				Share of Private Profit 3/			
				M1	M2	M3	M4	M1	M2	M3	M4
				Esc/Unit				Percentage			
Traditional Milk Production (6,000 liters)	.86/L	Fertilizers used in corn activity	23/1	--	.12/L	--	--	--	14.0	--	--
		Fertilizers used in rye grass activity	23/1	--	.18/L	--	--	--	21.0	--	--
		Mixed Feed in corn activity	1/	--	.03/L	--	--	--	3.5	--	--
		Mixed feed in rye grass activity	1/	--	.03/L	--	--	--	3.5	--	--
		Milking parlor services	11.1/1	--	.20/L	--	--	--	23.3	--	--
		Total	--	--	.56/L	--	.56/L	--	65.3	--	65.3
Modern Milk Production (48,000 liters)	6.58/L	Short-term credit	31/2	--	--	.02/L	--	--	--	0.3	--
		Medium and long-term credit	31/4	--	--	.98/L	--	--	--	14.9	--
		Milking equipment	11.1/1	--	--	.37/L	--	--	--	5.6	--
		Short-term credit in corn silage	31/2	--	--	.01/L	--	--	--	.2	--
		Medium and long-term credit in corn silage	31/4	--	--	.58/L	--	--	--	8.8	--
		Fertilizers in corn silage activity	23/1	--	.25/L	--	--	--	3.8	--	--
		Short-term credit in rye grass	31/2	--	--	.01/L	--	--	--	.2	--
		Med and long-term credit in rye grass	31/4	--	--	.33/L	--	--	--	5.0	--
		Fertilizers in rye grass activity	23/1	--	.18/L	--	--	--	2.7	--	--
		Mixed Feed in modern milk activity	1/	--	.31/L	--	--	--	4.7	--	--
				Total	--	--	.74/L	2.30/L	3.04/L	--	11.2
Traditional Corn Production (3,000 kg/ha)	.27/kg	Fertilizers	23/1	--	.35/kg	--	--	--	129.6	--	--
		Mixed feed	1/	--	.10/kg	--	--	--	37.0	--	--
		Total	--	--	.45/kg	--	.45/kg	--	166.6	--	166.6
Modern Corn Production (6,000 kg/ha)	4.58/kg	Short-term credit	31/2	--	--	.12/kg	--	--	--	2.6	--
		Medium and long-term credit	31/4	--	--	.42/kg	--	--	--	9.0	--
		Fertilizers	23/1	--	.76/kg	--	--	--	16.2	--	--
		Producer guaranteed price	4/4, 4/5	1.71/kg	--	--	--	36.5	--	--	--
		Total	--	1.71/kg	.76/kg	.54/kg	3.01/kg	36.5	16.2	11.6	64.3
Wheat Production on C and D soils (1,350 kg/ha)	2.68/kg	Short-term credit	31/2	--	--	.35/kg	--	--	--	13.1	--
		Medium and long-term credit	31/4	--	--	1.29/kg	--	--	--	48.1	--
		Fertilizers	23/1	--	2.20/kg	--	--	--	82.1	--	--
		Producer guaranteed price	4/1	1.54/kg	--	--	--	57.5	--	--	--
		Total	--	1.54/kg	2.20/kg	1.64/kg	5.38/kg	57.5	82.1	61.2	100.8
Wheat Production on A and B soils (2,000 kg/ha)	6.18/kg	Short-term credit	31/2	--	--	.25/kg	--	--	--	4.1	--
		Medium and long-term credit	31/4	--	--	.88/kg	--	--	--	14.2	--
		Fertilizers	23/1	--	1.82/kg	--	--	--	29.5	--	--
		Producer guaranteed price	4/1	1.54/kg	--	--	--	24.9	--	--	--
		Total	--	1.54/kg	1.82/kg	1.13/kg	4.49/kg	24.9	29.5	18.3	72.7
Irrigated Sunflower Production (1,750 kg/ha)	9.19/kg	Short-term credit	31/2	--	--	.17/kg	--	--	--	1.9	--
		Medium and long-term credit	31/4	--	--	.93/kg	--	--	--	10.1	--
		Fertilizers	23/1	--	.86/kg	--	--	--	9.4	--	--
		Producer guaranteed price	6.1/3	3.12/kg	--	--	--	34.0	--	--	--
		Total	--	3.12/kg	.86/kg	1.10/kg	5.08/kg	34.0	9.4	12.0	55.4
Non-Irrigated Sunflower Production (500 kg/ha)	2.91/kg	Short-term credit	31/2	--	--	.29/kg	--	--	--	10.0	--
		Medium and long-term credit	31/4	--	--	2.47/kg	--	--	--	84.9	--
		Fertilizers	23/1	--	1.27/kg	--	--	--	43.6	--	--
		Producer guaranteed price	6.1/3	3.12/kg	--	--	--	107.2	--	--	--
		Total	--	3.12/kg	1.27/kg	2.76/kg	7.15/kg	107.2	43.6	94.9	245.7

-- continued

Table 1--Subsidies and Private Profits in Farm Sector Activities, 1981 (continued)

Farm Sector Activity	Activity's Private Profit -Esc/Unit-	MACP Subsidy Classification Description	Code	Type of Subsidy				Share of Private Profit 3/				
				M1	M2	M3	M4	M1	M2	M3	M4	
				Esc/Unit				Percentage				
Beef Feedlot 2/	-3.26/kg	Short-term credit	31/2	--	--	3.73/kg	--	--	--	(114.4)	--	--
		Medium and long-term credit	31/4	--	--	6.62/kg	--	--	--	(203.1)	--	--
		Mixed feed	1/	--	3.12/kg	--	--	--	(95.7)	--	--	--
		Total	--	--	3.12/kg	10.35/kg	13.47/kg	--	(95.7)	(317.5)	(413.2)	--
Hogs-Confined System 2/	-3.95/kg	Short-term credit	31/2	--	--	1.10/kg	--	--	--	(27.9)	--	--
		Medium and long-term credit	31/4	--	--	8.14/kg	--	--	--	(206.1)	--	--
		Mixed feed	1/	--	10.34/kg	--	--	--	(261.8)	--	--	--
		Total	--	--	10.34/kg	9.24/kg	19.58/kg	--	(261.8)	(234.0)	(495.8)	--
Sheep 2/	91.87/kg	Short-term credit in sheep activity	31/2	--	--	1.25/kg	--	--	--	1.4	--	--
		Medium and long-term credits in sheep activity	31/4	--	--	6.51/kg	--	--	--	7.1	--	--
		Short-term credit in feed from pasture	31/2	--	--	3.88/kg	--	--	--	4.2	--	--
		Medium and long-term credit in feed from pasture	31/4	--	--	9.94/kg	--	--	--	10.8	--	--
		Fertilizers in feed from pasture	23/1	--	39.69/kg	--	--	--	43.2	--	--	--
		Total	--	--	39.69/kg	21.58/kg	61.27/kg	--	43.2	23.5	66.7	--
Large Scale Broiler Production 2/	-.55/kg	Short-term credit	31/2	--	--	2.79/kg	--	--	--	(507.3)	--	--
		Medium and long-term credit	31/4	--	--	1.28/kg	--	--	--	(232.7)	--	--
		Mixed feed	1/	--	5.25/kg	--	--	--	(954.6)	--	--	--
		Total	--	--	5.25/kg	4.07/kg	9.32/kg	--	(954.6)	(740.0)	(1,694.6)	--
Medium Scale Broiler Production 2/	-3.96/kg	Short-term credit	31/2	--	--	.07/kg	--	--	--	(1.8)	--	--
		Medium and long-term credit	31/4	--	--	.69/kg	--	--	--	(17.4)	--	--
		Mixed feed	1/	--	6.30/kg	--	--	--	(159.1)	--	--	--
		Total	--	--	6.30/kg	.76/kg	7.06/kg	--	(159.1)	(19.2)	(178.3)	--

1/ Subsidy in mixed feed is derived from subsidies in domestic yellow and white corn (4/4, 4/5), imported yellow and white corn (4/9 and 4/10), imported sorghum (4/12), imported oilseed meal (6.1/4) and domestic oilseed meal from imported seeds (6.1/5).

2/ Figures are expressed in kg of meat, liveweight.

3/ Parentheses indicate that activity's private profit is negative and shares are coefficient of absolute numbers. M4 is defined as the sum of the totals of M1, M2 and M3.

Source: Computed from data presented in Appendix.

activities receive input and domestic factor subsidies (i.e., M2 and M3, respectively). Input subsidies include subsidies on fertilizers and animal feed; domestic factor subsidies refer to concessional credit. The grain and oilseed production activities, with the exception of traditional corn production, also benefit from significant output subsidies (i.e., M1). 8/

The differences among sectors is in part a function of policy and in part a reflection of different technologies as reflected in input use and yield. Modern milk producers received in 1981 larger amount of subsidies per unit of output than did traditional milk producers (i.e., esc. 3.04/L versus esc. .56/L). This difference can be explained by the credit subsidy which was significant in the modern milk production activity.

Traditional corn producers received in 1981 significantly less subsidy than modern corn and wheat producers. That situation is due to low levels of marketed output and use of credit in the traditional corn production activity. Traditional corn producers do not benefit from the output subsidy in the form of a minimum guaranteed price which was, in 1981, higher than the c.i.f. import price. The output of traditional producers is either consumed on the farm or sold in local markets rather than to the Empresa Publica de Abastecimento de Cereais (EPAC). 9/

Both irrigated and non-irrigated sunflower production received significant subsidies in 1981, as did all livestock production activities. Nevertheless, meat production was still unprofitable except for the sheep farming activity. In most livestock activities the feed

subsidy was by far the most important subsidy whereas for arable activities the fertilizer subsidy was naturally more significant (see Table 1).

As pointed out earlier, Portugal's accession to EC would lead to the elimination of subsidies which are incompatible with the Common Market and to the adoption of CAP prices. Given the importance of agricultural subsidies identified in Table 1, their elimination would have, other things being equal, a significant impact on private profits for all thirteen farm sector activities. These impacts are shown in Table 2. Under Scenario I (i.e., 1981 Portuguese prices without Portuguese subsidies), private profits of all activities would decrease (or losses increase). The impact of the elimination of all subsidies on private profits (i.e., the subsidy effect) would be, in general, the most significant among the livestock production activities. The significance of the subsidy effect would also be, in general, more important among the grain and oilseed production activities than for the milk production activities.

The adoption of 1981 CAP prices would, other things being equal, raise private profit above the 1981 levels for the milk and sunflower production activities as shown in Table 2. CAP prices for raw milk and sunflower seeds were, in 1981, higher than Portuguese prices (see Table IV in Appendix). The impact of the CAP price effect would be to lower private profits from the 1981 levels for the other nine farm sector activities since CAP prices for corn, wheat, beef, pork, lamb and poultry were, in 1981, lower than Portuguese prices.

Table 2--Estimated Private Profits in Farm Sector Activities Under Various Scenarios

Farm Sector Activity	Private Profit :	Estimated Private Profit :				Subsidy :		CAP Price :		Accession	
	Under Existing :	Estimated Private Profit :				Effect :		Effect :		Effect	
	1981 Conditions :	Scenario I :	Scenario II :	Scenario III :	Esc/Unit :	Percent :	Esc/Unit :	Percent :	Esc/Unit :	Percent :	
	(1)	(2)	(3)	(4)	2/	3/ 4/	5/	6/ 4/	7/	8/ 5/	
	----- Esc/Unit -----										
Traditional Milk Production	.86/L	.30/L	2.25/L	1.69/L	-.56/L	-65	1.39/L	162	.83/L	97	
Modern Milk Production	6.58/L	3.53/L	7.97/L	4.92/L	-3.05/L	-46	1.39/L	21	-1.66/L	-25	
Traditional Corn Production	.27/kg	-.18/kg	-1.13/kg	-1.58/kg	-.45/kg	-167	-1.40/kg	-519	-1.85/kg	-685	
Modern Corn Production	4.68/kg	1.67/kg	3.28/kg	.27/kg	-3.01/kg	-64	-1.40/kg	-77	-4.41/kg	-94	
Wheat Production on C and D Soils	2.68/kg	-2.70/kg	.28/kg	-5.10/kg	-5.38/kg	-201	-2.40/kg	-90	-7.78/kg	-290	
Wheat Production on A and B Soils	6.18/kg	1.69/kg	3.78/kg	-.71/kg	-4.49/kg	-73	-2.40/kg	-39	-6.89/kg	-112	
Irrigated Sunflower Production	9.19/kg	4.11/kg	19.83/kg	14.75/kg	-5.08/kg	-55	10.64/kg	116	5.56/kg	61	
Non-Irrigated Sunflower Production	2.91/kg	-4.24/kg	13.55/kg	6.40/kg	-7.15/kg	-246	10.64/kg	366	3.49/kg	120	
Beef Feedlot 1/	-3.26/kg	-16.73/kg	-19.34/kg	-32.81/kg	-13.47/kg	-413	-16.08/kg	-493	-29.55/kg	-906	
Hogs-Confined System 1/	-3.95/kg	-23.53/kg	-7.06/kg	-26.64/kg	-19.58/kg	-496	-3.11/kg	-79	-22.69/kg	-575	
Sheep 1/	91.87/kg	30.60/kg	49.34/kg	-11.93/kg	-61.27/kg	-67	-42.53/kg	-46	-103.80/kg	-113	
Broiler-Large Scale 1/	-.55/kg	-9.87/kg	-11.51/kg	-20.83/kg	-9.32/kg	-1,695	-10.96/kg	-1,993	-20.28/kg	-3,687	
Broiler-Medium Scale 1/	-3.96/kg	-11.02/kg	-14.92/kg	-21.98/kg	-7.06/kg	-178	-10.96/kg	-277	-18.02/kg	-455	

1/ Figures are expressed in kg liveweight at farm level.

2/ Figures are computed as (2) - (1).

3/ Figures are computed as [(2) - (1)] ÷ (1).

4/ In expressing subsidy, CAP price and accession effects in percentages, the denominators are equal to the absolute values of 1981 activities' private profits.

5/ Figures are computed either as (3) - (1) or (4) - (2).

6/ Figures are computed as [(3) - (1)] ÷ (1).

7/ Figures are computed as (4) - (1).

8/ Figures are computed as [(4) - (1)] ÷ (1).

Source: Computed from data presented in Appendix.

The net impact of the subsidy and CAP price effects would lead to higher private profits for the traditional milk, irrigated and non-irrigated sunflower production activities. For those three activities, the positive CAP price effects more than offset the negative subsidy effects. Estimates of increases in private profits amount to 120 percent for non-irrigated sunflower production, 97 percent for traditional milk production and 61 percent for irrigated sunflower production. In the case of modern milk production, the CAP price effect is positive but is outweighed by a negative subsidy effect. Thus, the accession effect is negative and would lead to an approximate decline of 25 percent in that activity's private profit, as shown in Table 2.

The accession effects on all other farm sector activities are negative with the impact of lower prices reinforcing that of the removal of subsidies. The increase in losses would be most dramatic for the beef feedlot and large scale broiler production activities with change approximating 900 and and 3,700 percent respectively.

III. Changes in private profits of post-farm activities under alternative price and subsidy scenarios.

Agricultural subsidies have implications for processing activities, both those that purchase agricultural commodities, such as milling and oilseed crushing, and those that process livestock products. Table 3 summarizes the information on subsidies and 1981 private profits for eleven activities. More detailed information on the agricultural subsidies which impinge on post-farm activities are presented in Table I in the Appendix.

Table 3--Subsidies and Private Profits in Post-Farm Activities, 1981

Post-Farm Activity	Activity's Private Profit -Esc/Unit-	MACP Subsidy Classification				Type of Subsidy				Share of Private Profit 4/			
		Description	Code	M1	M2	M3	M4	M1	M2	M3	M4		
				Esc/Unit				Percentage					
Cheese Production	-17.8/kg	Short-term credit	31/2	--	--	1.87/kg	--	--	--	--	(10.5)	--	
		Medium and long-term credit	31/4	--	--	--	--	--	--	--	--	--	
		Total	--	--	--	1.87/kg	1.87/kg	--	--	--	(10.5)	(10.5)	
Milk and Butter Production 1/	1.6/L	Short-term credit	31/2	--	--	0.14/L	--	--	--	--	8.8	--	
		Medium and long-term credit	31/4	--	--	--	--	--	--	--	--	--	
		Total	--	--	--	.14/L	.14/L	--	--	--	8.8	8.8	
Wheat Flour Production by Ramas 2/	2.6/kg	Fixed industry purchase price for wheat	4/1 and 4/7	--	2.64/kg	--	--	--	101.5	--	--	--	
		Total	--	--	2.64/kg	--	2.64/kg	--	101.5	--	101.5	--	
Wheat Flour Production by Medium Espoada 2/	0.7/kg	Short-term credit	31/2	--	--	0.01/kg	--	--	--	--	1.4	--	
		Medium and long-term credit	31/4	--	--	0.90/kg	--	--	--	--	128.6	--	
		Fixed industry purchase price for wheat	4/1 and 4/7	--	3.20/kg	--	--	--	457.1	--	--	--	
Total	--	--	3.20/kg	.91/kg	4.11/kg	--	457.1	130.0	587.1	--	--		
Wheat Flour Production by Large Espoada 2/	0.4/kg	Short-term credit	31/2	--	--	0.01/kg	--	--	--	--	2.5	--	
		Medium and long-term credit	31/4	--	--	0.40/kg	--	--	--	--	100.0	--	
		Fixed industry purchase price for wheat	4/1 and 4/7	--	3.03/kg	--	--	--	757.5	--	--	--	
Total	--	--	3.03/kg	0.41/kg	3.44/kg	--	757.5	102.5	860.0	--	--		
Sunflower Crushers 3/	8.32/kg	Short-term credit	31/2	--	--	0.41/kg	--	--	--	--	4.9	--	
		Medium and long-term credit	31/4	--	--	0.55/kg	--	--	--	--	6.6	--	
		Fixed purchase price for seeds	6.1/3	--	2.84/kg	--	--	--	34.1	--	--	--	
Total	--	--	2.84/kg	0.96/kg	3.80/kg	--	34.1	11.5	45.6	--	--		
Beef Slaughter by JNPP	1.24/kg	Short-term credit	31/2	--	--	.34/kg	--	--	--	--	27.4	--	
		Medium and long-term credit	31/4	--	--	--	--	--	--	--	--	--	
		Total	--	--	.34/kg	.34/kg	--	--	--	--	27.4	27.4	
Hog Slaughter by Private Firm	1.07/kg	Short-term credit	31/2	--	--	.25/kg	--	--	--	--	23.4	--	
		Medium and long-term credit	31/4	--	--	--	--	--	--	--	--	--	
		Total	--	--	.25/kg	.25/kg	--	--	--	--	23.4	23.4	
Hog Slaughter by JNPP	-1.99/kg	Short-term credit	31/2	--	--	.18/kg	--	--	--	--	(9.1)	--	
		Medium and long-term credit	31/4	--	--	--	--	--	--	--	--	--	
		Total	--	--	.18/kg	.18/kg	--	--	--	--	(9.1)	(9.1)	
Sheep Slaughter by JNPP	0.51/kg	Short-term credit	31/2	--	--	.32/kg	--	--	--	--	62.8	--	
		Medium and long-term credit	31/4	--	--	--	--	--	--	--	--	--	
		Total	--	--	.32/kg	.32/kg	--	--	--	--	62.8	62.8	
Poultry Slaughter by Private Firm	-12.60/kg	Short-term credit	31/2	--	--	4.10/kg	--	--	--	--	(32.5)	--	
		Medium and long-term credit	31/4	--	--	2.27/kg	--	--	--	--	(18.0)	--	
		Total	--	--	6.37/kg	6.37/kg	--	--	--	--	(50.5)	(50.5)	

1/ Expressed in terms of raw milk. However, one liter of raw milk is equivalent to .972 L of pasteurized milk with 2.5% fat and .119 kg of butter.

2/ Subsidy and profit figures for all flour milling activities are expressed in terms of kg of wheat flour.

3/ Subsidy and profit figures are expressed in terms of kg of sunflower meal.

4/ Parentheses indicate that activity's private profit is negative and shares are coefficient of absolute numbers. M4 is defined as the sum of the totals of M1, M2 and M3.

Processors received fewer types of agricultural subsidy in 1981 than farmers. Although all eleven post-farm production activities received credit subsidies (M3), only wheat millers and sunflower crushers benefitted additionally from input subsidies (M2) in 1981. These input subsidies are for wheat and sunflower seeds purchased from EPAC and the Instituto de Azeite e Produtos Oleaginosos (IAPO) at prices which were, in 1981, lower than c.i.f. import prices. Private profits were positive in 1981 for all post-farm activities except for cheese production, hog slaughter by JNPP and poultry slaughter by private firms.

With the exception of sunflower crushers and privately-owned poultry slaughter houses, total subsidies received by wheat millers were significantly higher, both in absolute and relative terms, than those received by other processors in 1981. The situation is traceable to the significant subsidy on wheat purchased by millers. Sunflower crushers also benefitted from a significant subsidy on sunflower seeds in 1981 (Table 3).

The effect of changes in the subsidy and price system is shown in Table 4. Removal of the subsidy system has negative implications for all post-farm activities. However, given the relatively large subsidies in wheat milling and in sunflower crushing activities, this subsidy effect will be more significant in those activities than in others. Private profits would, other things being equal, decrease dramatically with the elimination of subsidies for all wheat mills. Those decreases are estimated at 860 percent for large espoda (i.e., mechanized wheat mills), 587 percent for medium espoda, and 101 percent for ramas (i.e.,

Table 4--Estimated Private Profits in Post-Farm Activities Under Various Scenarios

Post-Farm Activity	Private Profit	Estimated Private Profit				Subsidy Effect		CAP Price Effect		Accession Effect	
	Under Existing										
	1981 Conditions (1)	Scenario I (2)	Scenario II (3)	Scenario III (4)	Esc/Unit 1/	Percent 2/ 3/	Esc/Unit 4/	Percent 5/ 3/	Esc/Unit 6/	Percent 7/ 3/	
		----- Esc/Unit -----									
Cheese Production	-17.80/kg	-19.67/kg	-32.09/kg	-33.96/kg	-1.87/kg	-11	-14.29/kg	-80	-16.16/kg	-91	
Milk and Butter Production <u>8/</u>	1.60/L	1.46/L	2.99/L	2.85/L	-.14/L	-9	1.39/L	87	1.25/L	78	
Wheat Flour Production by Ramas	2.60/kg	-.04/kg	12.12/kg	9.48/kg	-2.64/kg	-101	9.52/kg	366	6.88/kg	265	
Wheat Flour Production by Medium Espoada	.70/kg	-3.41/kg	10.22/kg	6.11/kg	-4.11/kg	-587	9.52/kg	1,360	5.41/kg	773	
Wheat Flour Production by Large Espoada	.40/kg	-3.04/kg	9.92/kg	6.48/kg	-3.44/kg	-860	9.52/kg	2,380	6.08/kg	1,520	
Sunflower Crusher <u>9/</u>	8.32/kg	4.52/kg	15.12/kg	11.32/kg	-3.80/kg	-46	6.80/kg	82	3.00/kg	36	
Beef Slaughter by JNPP	1.24/kg	.90/kg	1.24/kg	.90/kg	-.34/kg	-27	0.00/kg	0	-.34/kg	-27	
Hog Slaughter by Private Firm	1.07/kg	.82/kg	1.07/kg	.82/kg	-.25/kg	-23	0.00/kg	0	-.25/kg	-23	
Hog Slaughter by JNPP	-1.99/kg	-2.17/kg	-1.99/kg	-2.17/kg	-.18/kg	-9	0.00/kg	0	-.18/kg	-9	
Sheep Slaughter by JNPP	.51/kg	.19/kg	.51/kg	.19/kg	-.32/kg	-63	0.00/kg	0	-.32/kg	-63	
Poultry Slaughter by Private Firm	-12.60/kg	-18.97/kg	-12.60/kg	-18.97/kg	-6.37/kg	-51	0.00/kg	0	-6.37/kg	-51	

1/ Figures are computed as (2) - (1).

2/ Figures are computed as [(2) - (1)] ÷ (1).

3/ In expressing subsidy, CAP price and accession effects in percentages, the denominators are equal to the absolute values of 1981 activities' private profits.

4/ Figures are computed either as (3) - (1) or (4) - (2).

5/ Figures are computed as [(3) - (1)] ÷ (1).

6/ Figures are computed as (4) - (1).

7/ Figures are computed as [(4) - (1)] ÷ (1).

8/ Profit figures are expressed in liter of pasteurized milk with 2.5 percent fat.

9/ Profit figures are expressed in kg of sunflower meal.

Source: Computed from data presented in Appendix.

stone-grinder wheat mills). Sunflower crusher's private profit would also decrease by 46 percent, as shown in Table 4.

Adoption of CAP prices helps some processing activities more than others. The move to CAP prices would have no impact on slaughter houses since they are a service industry. The CAP price effect would be negative for the cheese production activity and positive for the rest of the post-farm activities (Table 4) since, the EC price was, in 1981, lower than the Portuguese price in the case of cheese while the opposite holds true for milk, butter, wheat flour and sunflower meal (Table IV in Appendix).

The combined impact of subsidy removal and adoption of CAP prices is also shown in Table 4. This accession effect would be negative for the cheese production activity since the adoption of CAP price will lead to greater losses, thus, reinforcing the impact of the removal of the credit subsidy. The accession effects would be positive for the milk/butter, wheat milling and sunflower crushing activities. For those activities, the adoption of CAP prices will raise private profits which will more than offset the negative impacts which will arise from the elimination of agricultural subsidies. Estimates of increases in private profits range from 1,520 percent for the large espoada mills to 78 percent for the milk and butter activity and 36 percent for the sunflower crusher.

IV. Changes in private profits of dairy and meat systems under alternative price and subsidy scenarios.

The 1982 PES team report analyzed 19 systems, of which ten, however, contain only a single activity. Change in profitability in these ten systems were shown in Tables 2 and 4, above. This section will focus on nine dairy and meat systems which constitute combinations of farm and post-farm activities described earlier.

Table 5 summarizes the information on subsidies for the nine dairy and meat systems and lists those systems' 1981 private profits. Detailed information on agricultural subsidies which impinge on selected commodity systems are presented in Table II of the Appendix.

Among the nine dairy and meat systems, only three systems were profitable in 1981. The three systems which were profitable in 1981 are the systems that produced pasteurized milk and butter with raw milk supplied either by a traditional dairy farm or by a modern dairy farm and the system that produced lamb slaughtered by JNPP (Table 5). The other six systems incurred losses in spite of significant subsidies. Indeed, in 1981, the total subsidies received by producers (M4) were more important (in relative terms) for the unprofitable systems than they were for the three profitable ones. All systems, except one, received input subsidies (i.e., subsidies on fertilizers, mixed feed and milking equipment) and credit subsidy in 1981. There was no use of subsidized credit in the milk/butter-traditional milk system. 10/

Table 3--Subsidies and Private Profits in Selected Commodity Systems, 1981

System	System's Private Profit Esc/Unit	MACP Subsidy Classification Description	Code	Type of Subsidy				Share of Private Profit 10/				
				M1	M2	M3	M4	M1	M2	M3	M4	
				Esc/Unit				Percentage				
Cheese-Traditional Milk 1/	-8.76/kg	Short-term credit in cheese	31/2	--	--	1.87/kg	--	--	--	--	(21.4)	--
		Med. and long-term credit in cheese	31/4	--	--	--	--	--	--	--	--	--
		Fertilizers used on corn	23/1	--	1.20/kg	--	--	--	(13.7)	--	--	--
		Fertilizers used on rye-grass	23/1	--	1.78/kg	--	--	--	(20.3)	--	--	--
		Mixed feed in corn	2/	--	.35/kg	--	--	--	(4.0)	--	--	--
		Mixed feed in rye-grass	2/	--	.34/kg	--	--	--	(3.9)	--	--	--
		Milking parlor services	11.1/1f	--	2.04/kg	--	--	--	(23.3)	--	--	--
Total	--	--	5.71/kg	1.87/kg	7.58/kg	--	(65.2)	(21.4)	(86.6)	--		
Milk/Butter-Traditional Milk 3/	2.52/L	Short-term credit in milk/butter	31/2	--	--	.15/L	--	--	--	6.0	--	--
		Med. and long-term credit in milk/butter	31/4	--	--	--	--	--	--	--	--	--
		Milking parlor services	11.1/1f	--	.21/L	--	--	--	8.3	--	--	--
		Fertilizers used in corn	23/1	--	.12/L	--	--	--	4.8	--	--	--
		Fertilizers used in rye-grass	23/1	--	.18/L	--	--	--	7.1	--	--	--
		Mixed feed in corn	2/	--	.04/L	--	--	--	1.6	--	--	--
		Mixed feed in rye-grass	2/	--	.03/L	--	--	--	1.2	--	--	--
Total	--	--	.58/L	.15/L	.73/L	--	23.0	6.0	29.0	--		
Milk/Butter-Advanced Milk 3/	8.37/L	Short-term credit in milk/butter	31/2	--	--	.15/L	--	--	--	1.8	--	--
		Med. and long-term credit in milk/butter	31/4	--	--	--	--	--	--	--	--	--
		Short-term credit in adv. milk	31/2	--	--	.02/L	--	--	--	.2	--	--
		Med. and long-term credit in adv. milk	31/4	--	--	.99/L	--	--	--	11.8	--	--
		Milking equipment	11.1/1	--	--	.37/L	--	--	--	4.4	--	--
		Mixed feed in advanced milk	2/	--	.32/L	--	--	--	3.8	--	--	--
		Short-term credit in corn silage	31/2	--	--	.01/L	--	--	--	.1	--	--
		Med. and long-term credit in corn silage	31/4	--	--	.59/L	--	--	--	7.1	--	--
		Fertilizers used on corn silage	23/1	--	.26/L	--	--	--	3.1	--	--	--
		Short-term credit in rye-grass	31/2	--	--	.01/L	--	--	--	.1	--	--
		Med. and long-term credit in rye-grass	31/4	--	--	.33/L	--	--	--	3.9	--	--
Fertilizers used on rye-grass	23/1	--	.18/L	--	--	--	2.2	--	--	--		
Total	--	--	.76/L	2.47/L	3.23/L	--	9.1	29.4	38.5	--		
Beef-JNPP 4/	-4.75/kg	Short-term credit-BF	31/2	--	--	6.86/kg	--	--	--	(144.4)	--	--
		Medium and long-term credit-BF	31/4	--	--	12.17/kg	--	--	--	(256.2)	--	--
		Mixed feed-BF	2/	--	5.74/kg	--	--	--	(120.8)	--	--	--
		Short-term credit-JNPP	31/2	--	--	.34/kg	--	--	--	(7.2)	--	--
		Medium and long-term credit-JNPP	31/4	--	--	--	--	--	--	--	--	--
Total	--	--	5.74/kg	19.37/kg	25.11/kg	--	(120.8)	(407.8)	(528.6)	--		
Lamb-JNPP 5/	184.25/kg	Short-term credit-Sheep	31/2	--	--	2.50/kg	--	--	--	1.4	--	--
		Medium and long-term credit-Sheep	31/4	--	--	13.02/kg	--	--	--	7.1	--	--
		Short-term credit-Pasture	31/2	--	--	7.76/kg	--	--	--	4.2	--	--
		Medium and long-term credit-Pasture	31/4	--	--	19.88/kg	--	--	--	10.8	--	--
		Fertilizers-Pasture	23/1	--	79.38/kg	--	--	--	43.1	--	--	--
		Short-term credit-JNPP	31/2	--	--	.32/kg	--	--	--	.2	--	--
		Medium and long-term credit-JNPP	31/4	--	--	--	--	--	--	--	--	--
Total	--	--	79.38/kg	43.48/kg	122.86/kg	--	43.1	23.7	66.8	--		

-- continued

Table 5--Subsidies and Private Profits in Selected Commodity Systems, 1981 (continued)

System	System's Private Profit -Esc/Unit-	MACP Subsidy Classification Description	Code	Type of Subsidy				Share of Private Profit 10/			
				M1	M2	M3	M4	M1	M2	M3	M4
				Esc/Unit				Percentage			
Pork-JNPP 6/	-7.26/kg	Short-term credit-Hog	31/2	--	--	1.47/kg	--	--	--	(20.3)	--
		Medium and long-term credit-Hog	31/4	--	--	10.85/kg	--	--	--	(149.5)	--
		Mixed feed-Hog	2/	--	--	13.78/kg	--	--	--	(189.8)	--
		Short-term credit-JNPP	31/2	--	--	.18/kg	--	--	--	(2.5)	--
		Medium and long-term credit-JNPP	31/4	--	--	--	--	--	--	--	--
		Total	--	--	13.78/kg	12.50/kg	26.28/kg	--	(189.8)	(172.3)	(362.1)
Pork-Private 7/	-4.20/kg	Short-term credit-Hog	31/2	--	--	1.47/kg	--	--	--	(35.0)	--
		Medium and long-term credit-Hog	31/4	--	--	10.85/kg	--	--	--	(258.3)	--
		Mixed feed-Hog	2/	--	--	13.78/kg	--	--	--	(328.1)	--
		Short-term credit-Private	31/2	--	--	.25/kg	--	--	--	(6.0)	--
		Medium and long-term credit-Private	31/4	--	--	--	--	--	--	--	--
		Total	--	--	13.78/kg	12.57/kg	26.35/kg	--	(328.1)	(299.3)	(627.4)
Poultry-large 8/	-13.32/kg	Short-term credit-Broiler	31/2	--	--	3.63/kg	--	--	--	(27.3)	--
		Medium and long-term credit-Broiler	31/4	--	--	1.66/kg	--	--	--	(12.5)	--
		Mixed feed-Broiler	2/	--	--	6.83/kg	--	--	--	(51.3)	--
		Short-term credit-Sl. House	31/2	--	--	4.10/kg	--	--	--	(30.8)	--
		Medium and long-term credit-Sl. House	31/4	--	--	2.27/kg	--	--	--	(17.0)	--
		Total	--	--	6.83/kg	11.66/kg	18.49/kg	--	(51.3)	(87.6)	(138.9)
Poultry-Medium 9/	-17.75/kg	Short-term credit-Broiler	31/2	--	--	.09/kg	--	--	--	(.5)	--
		Medium and long-term credit-Broiler	31/4	--	--	.90/kg	--	--	--	(5.1)	--
		Mixed feed-Broiler	2/	--	--	8.19/kg	--	--	--	(46.1)	--
		Short-term credit-Sl. House	31/2	--	--	4.10/kg	--	--	--	(23.1)	--
		Medium and long-term credit-Sl. House	31/4	--	--	2.27/kg	--	--	--	(12.8)	--
		Total	--	--	8.19/kg	7.36/kg	15.55/kg	--	(46.1)	(41.5)	(87.6)

1/ Figures are expressed in kg of cheese.
 2/ Subsidy in mixed feed is derived from subsidies in domestic yellow and white corn (4/4 and 4/5), imported yellow and white corn (4/9 and 4/10), imported sorghum (4/12), imported oilseed meal (6.1/4) and domestic oilseed meals from imported seeds (6.1/5).
 3/ L--Liter of pasteurized milk with 2.5 percent fat.
 4/ Figures are expressed in kg of meat, carcass weight; BF--Beef feedlot; JNPP--JNPP slaughter house.
 5/ Figures are expressed in kg of meat, carcass weight; Sheep--Sheep activity; Pasture--Pasture serves as animal feed in sheep activity.
 6/ Figures are expressed in kg of meat, carcass weight; Hog--Hog activity.
 7/ Figures are expressed in kg of meat, carcass weight; Private--Privately owned hog slaughter house.
 8/ Figures are expressed in kg of meat, carcass weight; Broiler--Large scale broiler production activity; Sl. House--Privately owned poultry slaughter house.
 9/ Figures are expressed in kg of meat, carcass weight; Broiler--Medium scale broiler production activity.
 10/ Parentheses indicate that system's private profit is negative and shares are coefficient of absolute numbers. M4 is defined as the sum of the totals of M1, M2 and M3.

Source: Computed from data presented in Appendix.

The impact of the elimination of subsidies and of price changes is shown in Table 6. The effect of subsidy removal is negative for all nine dairy and meat systems. However, given the relatively greater importance of agricultural subsidies in the six unprofitable systems, the elimination of those subsidies would lead to relatively larger impacts of the systems that were already unprofitable in 1981 than for the profitable ones.

In 1981, EC prices were higher than Portuguese prices for pasteurized milk, butter, pork, and poultry (Table III in Appendix). The adoption of CAP prices would therefore, other things being equal, increase private profits for the milk/butter, pork and poultry systems. However, only in the case of the milk/butter-traditional milk system would the higher CAP price be significant enough to offset the negative subsidy effect and yield a positive accession effect. Estimate of increase in the milk/butter-traditional milk system's private profit amounts to 26 percent of the 1981 level.

In the pork and poultry systems, the positive CAP price effects would be less significant than the negative effects of subsidy removal. Thus, private losses would increase for the pork and poultry systems with the elimination of subsidies and the adoption of CAP prices. Estimates of increases in the pork and poultry systems' private losses range from 69 to 135 percent of the 1981 levels, as shown in Table 6.

The CAP price effect would be negative for the cheese, beef and lamb systems since EC prices were, in 1981, lower than Portuguese prices

Table 6--Estimated Private Profits in Selected Commodity Systems Under Various Scenarios

Products	Private Profit :				Subsidy Effect :		CAP Price Effect 2/ :		Accession Effect :	
	Under Existing :	Estimated Private Profit :			Esc/Unit :	Percent :	Esc/Unit :	Percent :	Esc/Unit :	Percent :
	1981 Conditions :	Scenario I :	Scenario II :	Scenario III :	1/ :	2/ 3/ :	4/ :	3/ 5/ :	6/ :	3/ 7/ :
	(1)	(2)	(3)	(4)						
	----- Esc/Unit -----									
Cheese-Traditional Milk <u>8/</u>	-8.76/kg	-16.34/kg	-23.05/kg	-30.63/kg	-7.58/kg	-87	-14.29/kg	-163	-21.87/kg	-250
Milk/Butter-Traditional Milk <u>9/</u>	2.52/L	1.79/L	3.91/L	3.18/L	-.73/L	-29	1.39/L	55	.66/L	26
Milk/Butter-Advanced Milk <u>9/</u>	8.37/L	5.14/L	9.76/L	6.53/L	-3.23/L	-39	1.39/L	17	-1.84/L	-22
Beef-JNPP <u>10/</u>	-4.75/kg	-29.86/kg	-20.96/kg	-46.07/kg	-25.11/kg	-529	-16.21/kg	-341	-41.32/kg	-870
Lamb-JNPP <u>10/</u>	184.25/kg	61.39/kg	96.76/kg	-26.10/kg	-122.86/kg	-67	-87.49/kg	-47	-210.35/kg	-114
Pork-JNPP <u>10/</u>	-7.26/kg	-33.54/kg	13.99/kg	-12.29/kg	-26.28/kg	-362	21.25/kg	293	-5.03/kg	-69
Pork-Private <u>10/</u>	-4.20/kg	-30.55/kg	17.05/kg	-9.23/kg	-26.35/kg	-627	21.25/kg	506	-5.03/kg	-121
Poultry-Large Scale Production <u>10/</u>	-13.32/kg	-31.81/kg	-12.85/kg	-31.34/kg	-18.49/kg	-139	.47/kg	4	-18.02/kg	-135
Poultry-Medium Scale Production <u>10/</u>	-17.75/kg	-33.30/kg	-17.28/kg	-32.83/kg	-15.55/kg	-88	.47/kg	3	-15.08/kg	-85

1/ Figures are computed as (2) - (1).

2/ Figures are computed as [(2) - (1)] ÷ (1).

3/ In expressing subsidy, CAP price and accession effects in percentages, the denominators are equal to the absolute values of 1981 systems' private profits.

4/ Figures are computed either as (3) - (1) or (4) - (2).

5/ Figures are computed as [(3) - (1)] ÷ (1).

6/ Figures are computed as (4) - (1).

7/ Figures are computed as [(4) - (1)] ÷ (1).

8/ Profit figures are expressed in kg of cheese.

9/ L--Liter of pasteurized milk with 2.5 percent fat.

10/ Profit figures are expressed in kg of meat, carcass weight.

Source: Computed based on data presented in Appendix.

(Table III in Appendix). In these instances, the CAP price effects would reinforce the negative subsidy effects and would lead to significant decreases in private profit. Estimates of net increases in private losses approximate 870 percent in the beef-JNPP system, 250 percent in the cheese-traditional milk system; profits are turned to losses in the lamb-JNPP system.

V. Changes in consumer prices/costs under CAP alternative price and subsidy scenarios

Portugal's consumer prices for food are controlled by the Government through various means such as the use of fixed and declared prices at the wholesale level, consumer subsidies and fixed marketing margins between the wholesale and the retail level. ^{11/} The adoption of the CAP will lead to changes in consumer cost both through modifications in this system and through the changes in the price of the agricultural content of food. To see the impact on consumers it is convenient to convert prices at retail back to a wholesale-level equivalent by subtracting the wholesale and retail margins from the consumer (retail) price. This calculated wholesale price can then be compared with that which might obtain under EC conditions and under a policy which removed consumer subsidies. No account has been taken of any changes in the marketing margins themselves (as opposed to subsidies and wholesale price changes) as a result of policy changes. Portuguese consumer prices and consumer wholesale level equivalent prices (CWLEP) for 1981 are presented in Table 7. Comparable prices which might be expected under EC conditions are also listed in that table.

Table 7--Consumer Wholesale Level Equivalent Prices (CWLEP) for Selected Products, 1981

Product	Consumer price 1/ (1)	Subsidy (2)	Retail Margin 2/ (3)	Wholesale Margin 2/ (4)	Portuguese CWLEP 3/ (5)	CAP CWLEP (6)
	----- (Esc/Unit) -----					
Pasteurized milk (2.5% fat)	15.00/L	7.55/L	4/5.30/L	5/	9.70/L	10.71/L
UHT milk (2.5% fat)	22.50/L	5.25/L	4/10.50/L	5/	12.00/L	13.01/L
Skim milk powder	6/168.63/kg	69.00/kg	22.44/kg	13.20/kg	132.99/kg	101.95/kg
Butter	188.27/kg	.00	24.56/kg (15%)	10.71/kg (7%)	153.00/kg	220.99/kg
Cheese	275.49/kg	.00	32.84/kg	18.65/kg	224.00/kg	209.71/kg
Wheat flour, first quality	19.06/kg	.00	3.56/kg (23%)	5/	15.50/kg	25.02/kg
Wheat flour, second quality	16.35/kg	.00	3.06/kg (23%)	5/	13.29/kg	25.02/kg
Bread, 50 gr.	1.90/bread	.00	.20/bread	.00	1.70/bread	2.09/bread
Bread, 250 gr.	9.00/bread	.00	.50/bread	.00	8.50/bread	10.44/bread
Bread, 500 gr.	17.70/bread	.00	.70/bread	.00	17.00/bread	20.87/bread
Refined sunflower oil	82.08/kg	.00	7.46/kg (10%)	4.22/kg (6%)	70.40/kg	49.18/kg
Beef	276.42/kg	.00	38.23/kg (16.05%)	7/21.65/kg (10%)	216.54/kg	200.33/kg
Pork	108.03/kg	.00	14.94/kg (16.05%)	7/8.46/kg (10%)	84.63/kg	105.88/kg
Lamb	391.49/kg	.00	54.14/kg (16.05%)	7/30.67/kg (10%)	306.68/kg	219.19/kg
Poultry	96.86/kg	.00	9.60/kg	7/6.46/kg (11%)	80.80/kg (8%)	81.27/kg

1/ Consumer prices for pasteurized milk, UHT milk, powder milk, wheat flour and bread are fixed by government decrees. Butter, cheese and refined sunflower oil fall into the declared price system. Declared prices and livestock prices are computed based on monthly figures excerpted from *Boletim Mensal De Estatística*.

2/ Retail and wholesale margins are determined by government decrees either in escudos per unit or in percentages. In cases where margins are defined in percentages, they are indicated in parentheses.

3/ Figures in column (5) are computed as [(1)-(3)-(4)]. In the cases of pasteurized milk, UHT milk and skim milk powder where there were consumer subsidies in 1981, CWLEP can also be computed as the differences between the wholesale prices (i.e., esc. 17.25/L for pasteurized and UHT milk and 201.99/kg for skim milk powder) and the consumer subsidies.

4/ Figure represents sum of second fixed processing margin, processor's marketing margin and retailer's marketing margin.

5/ Included in column (3) figures.

6/ 1981 average price of packaged skim milk powder.

7/ Figures indicate storage margins fixed by government decrees. There are no wholesale margins for livestock products.

Among the commodities included in this analysis, there were, in 1981, consumer subsidies only for milk products. ^{12/} Consumer subsidies amounted to, in that year, 50, 23, and 41 percent of consumer prices for pasteurized milk, UHT milk and skim milk powder, respectively, as shown in Table 7. There was, in 1981, no consumer subsidy for butter, cheese, wheat flour, bread, refined sunflower oil, beef, pork, lamb, and poultry.

Given the importance of consumers subsidies (i.e., M5) in milk products, their elimination under Scenario I would lead to significant increases in consumer costs. This is shown in Table 8. Increases in consumer prices would approximate 50 percent for pasteurized milk, 23 percent for UHT milk and 41 percent for skim milk powder if, other things being equal, consumer subsidies are eliminated.

Wholesale prices which might have existed under the CAP in 1981, were higher than actual Portuguese prices for pasteurized milk, UHT milk, butter, wheat flour, bread, pork and poultry (Table 7). The adoption of CAP prices would, other things being equal, raise consumer prices for pasteurized milk, UHT milk, butter, wheat flour, bread, pork and poultry. The CAP price effect will be most significant for wheat flour (61-88 percent increase), butter (44 percent increase), pork (25 percent increase) and bread (22 percent increase) as shown in Table 8.

Estimated 1981 CAP wholesale-level prices were lower than actual Portuguese CWLEP for skim milk powder, cheese, refined sunflower oil, beef and lamb (Table 7). The adoption of CAP prices would, other things being equal, lower consumer prices for those commodities. The CAP price

Table 8--Estimated Changes in Consumer Prices Under Various Scenarios

Products	1981 Consumer	Estimated Consumer Prices				Subsidy Effect		CAP Price Effect		Accession Effect	
	Prices 1/ (1)	Scenario I (2)	Scenario II (3)	Scenario III (4)	Esc/Unit (2/)	Percent (3/)	Esc/Unit (4/)	Percent (5/)	Esc/Unit (6/)	Percent (7/)	
		- - - - - Esc/Unit - - - - -									
Pasteurized Milk (2.5%)	15.00/L	22.55/L	16.01/L	23.56/L	7.55/L	50	1.01/L	7	8.56/L	57	
UHT Milk (2.5% fat)	22.50/L	27.75/L	23.51/L	28.76/L	5.25/L	23	1.01/L	4	6.26/L	27	
Skim Milk Powder	168.63/kg	237.63/kg	68.59/kg	137.59/kg	69.00/kg	41	-100.04/kg	-59	-31.04/kg	-18	
Butter	188.27/kg	188.27/kg	271.93/kg	271.93/kg	0.00/kg	0	83.66/kg	44	83.66/kg	44	
Cheese	275.49/kg	275.49/kg	261.20/kg	261.20/kg	0.00/kg	0	-14.29/kg	-5	-14.29/kg	-5	
Wheat Flour, first quality	19.06/kg	19.06/kg	30.77/kg	30.77/kg	0.00/kg	0	11.71/kg	61	11.71/kg	61	
Wheat Flour, second quality	16.35/kg	16.35/kg	30.77/kg	30.77/kg	0.00/kg	0	14.42/kg	88	14.42/kg	88	
Bread, 50 gr. 8/	1.90/br	1.90/br	2.29/br	2.29/br	0.00/br	0	.39/br	21	.39/br	21	
Bread, 250 gr. 8/	9.00/br	9.00/br	10.94/br	10.94/br	0.00/br	0	1.94/br	22	1.94/br	22	
Bread, 500 gr. 8/	17.70/br	17.70/br	21.57/br	21.57/br	0.00/br	0	3.87/br	22	3.87/br	22	
Refined Sunflower Oil	82.08/kg	82.08/kg	57.34/kg	57.34/kg	0.00/kg	0	-24.74/kg	-30	-24.74/kg	-30	
Beef	276.42/kg	276.42/kg	255.73/kg	255.73/kg	0.00/kg	0	-20.69/kg	-7	-20.69/kg	-7	
Pork	108.03/kg	108.03/kg	135.16/kg	135.16/kg	0.00/kg	0	27.13/kg	25	27.13/kg	25	
Lamb	391.49/kg	391.49/kg	279.81/kg	279.81/kg	0.00/kg	0	-111.68/kg	-29	-111.68/kg	-29	
Poultry	96.86/kg	96.86/kg	97.43/kg	97.43/kg	0.00/kg	0	.57/kg	1	.57/kg	1	

1/ Actual prices.

2/ Figures are computed as (2) - (1).

3/ Figures are computed as [(2) - (1)] ÷ (1).

4/ Figures are computed either as (3) - (1) or (4) - (2).

5/ Figures are computed as [(3) - (1)] ÷ (1).

6/ Figures are computed as (4) - (1).

7/ Figures are computed as [(4) - (1)] ÷ (1).

8/ Br - Bread of specific weight. The production of one kg of bread requires .814 kg of wheat flour and the 1981 fixed gross margin for bakeries was 21.38 Esc/kg of bread.

Source: Computed based on data presented in Appendix.

effect would be most significant for skim milk powder (59 percent decrease), refined sunflower oil (30 percent decrease) and lamb (29 percent decrease).

In the cases of pasteurized and UHT milk, the positive CAP price effect will reinforce the positive subsidy effect and would yield net accession effects of 57 and 27 percent increase in consumer costs, respectively. For skim milk powder, the negative CAP price effect will more than offset the positive subsidy effect and would lead to a net decrease in consumer cost of 18 percent. For the other commodities, the accession effect will be equal to the CAP price effect since there will be no subsidy effect. Therefore, consumer costs would decrease for cheese (5 percent), refined sunflower oil (30 percent), beef (7 percent) and lamb (29 percent). Consumer costs would have been higher for butter (44 percent), wheat flour (51-88 percent), bread (22 percent), pork (25 percent) and poultry (1 percent) if CAP prices had been in evidence in 1981.

VI. Subsidies and efficient use of economic resources.

Efficient utilization of economic resources for an activity is indicated by positive social profit. The social profit of a system is measured as the difference between revenue and costs where output and tradable inputs are evaluated at international prices (i.e., c.i.f. import prices or f.o.b. export prices) and domestic factors at shadow prices or opportunity costs. However, in the case of a member state of the EC the definition of "international price" must take account of the

common trade policies, in particular the Common Customs Tariff and the trade regulations inherent in the CAP. Because tariff revenues are paid to (and export subsidies are paid from) the Common budget, the foreign exchange price to any member of traded goods becomes the tariff inclusive price rather than the world price. This implies that one must use "constrained" social profit (at EC price levels) as the appropriate measure of efficiency instead of "unconstrained" social profit (at world price levels) once membership is achieved. Assessment of a system's constrained social profit or Euro-social profit requires that output and tradable inputs be evaluated at EC prices (i.e., intervention or threshold prices plus transportation and unloading costs) and domestic factors at opportunity costs.

Euro-social profits for the 19 systems analyzed in this report are presented in Table 9. Based on 1981 Euro-social profits, the dairy, grain (with the exception of traditional corn and wheat on C and D soils), wheat flour and oilseed systems are economically efficient. Among the livestock systems, only the lamb-JNPP system is economically efficient (Table 9).

There are significant differences in magnitude and signs between Euro-social and private profits for the 19 systems. The relationship between social and private profitability indicates the extent to which efficiency objectives as opposed to income transfers are being achieved by the subsidy system.

Table 9--Efficiency and Private Profitability of Selected Commodity Systems Under Various Scenarios, 1981

System	1981	Estimated Private Profit			Subsidy	CAP	Accession	1981
	Private Profit	Scenario I	Scenario II	Scenario III	Effect	Price Effect	Effect	Euro-Social Profit
	----- Esc/Unit -----							
Cheese-Traditional Milk <u>1/</u>	-8.76/kg	-16.34/kg	-23.05/kg	-30.63/kg	-7.58/kg	-14.29/kg	-21.87/kg	1.03/kg
Milk/Butter-Traditional Milk <u>2/</u>	2.52/L	1.79/L	5.91/L	3.18/L	-.73/L	1.39/L	.66/L	3.61/L
Milk/Butter-Advanced Milk <u>2/</u>	8.37/L	5.14/L	9.76/L	6.53/L	-3.23/L	1.39/L	-1.84/L	7.53/L
Traditional Corn	.27/kg	-.18/kg	-1.13/kg	-1.58/kg	-.45/kg	-1.40/kg	-1.85/kg	-.92/kg
Mechanized Corn	4.68/kg	1.67/kg	3.28/kg	.27/kg	-3.01/kg	-1.40/kg	-4.41/kg	1.67/kg
Wheat-C and D Soils	2.68/kg	-2.70/kg	.28/kg	-5.10/kg	-5.38/kg	-2.40/kg	-7.78/kg	-2.43/kg
Wheat-A and B Soils	6.18/kg	1.69/kg	3.78/kg	-.71/kg	-4.49/kg	-2.40/kg	-6.89/kg	1.05/kg
Ramas Flour Mill	2.60/kg	-.04/kg	12.12/kg	9.48/kg	-2.64/kg	9.52/kg	6.88/kg	9.58/kg
Medium Espoada	.70/kg	-3.41/kg	10.22/kg	6.11/kg	-4.11/kg	9.52/kg	5.41/kg	6.32/kg
Large Espoada	.40/kg	-3.04/kg	9.92/kg	6.48/kg	-3.44/kg	9.52/kg	6.08/kg	8.69/kg
Irrigated Sunflower	9.19/kg	4.11/kg	19.83/kg	14.75/kg	-5.08/kg	10.64/kg	5.56/kg	15.11/kg
Non-Irrigated Sunflower	2.91/kg	-4.24/kg	13.55/kg	6.40/kg	-7.15/kg	10.64/kg	3.49/kg	8.95/kg
Sunflower Crusher <u>3/</u>	8.32/kg	4.52/kg	15.12/kg	11.32/kg	-3.80/kg	6.80/kg	3.00/kg	.61/kg
Beef-JNPP <u>4/</u>	-4.75/kg	-29.86/kg	-20.96/kg	-46.07/kg	-25.11/kg	-16.21/kg	-41.32/kg	-163.82/kg
Lamb-JNPP <u>4/</u>	184.25/kg	61.39/kg	96.76/kg	-26.10/kg	-122.86/kg	-87.49/kg	-210.35/kg	52.78/kg
Pork-JNPP <u>4/</u>	-7.26/kg	-33.54/kg	13.99/kg	-12.29/kg	-26.28/kg	21.25/kg	-5.03/kg	-34.68/kg
Pork-Private <u>4/</u>	-4.20/kg	-30.55/kg	17.05/kg	-9.23/kg	-26.35/kg	21.25/kg	-5.03/kg	-34.68/kg
Poultry-Large Scale Production <u>4/</u>	-13.32/kg	-31.81/kg	-12.85/kg	-31.34/kg	-18.49/kg	.47/kg	-18.02/kg	-19.11/kg
Poultry-Medium Scale Production <u>4/</u>	-17.75/kg	-33.30/kg	-17.28/kg	-32.83/kg	-15.55/kg	.47/kg	-15.08/kg	-26.61/kg

1/ Figures are expressed in kg of cheese.

2/ L--liter of pasteurized milk with 2.5 percent fat.

3/ Figures are expressed in kg of sunflower meal.

4/ Figures are expressed in kg of meat, carcass weight.

Sources: Tables 1-6, Table IV in Appendix and Procalfer, Comparative Advantage and Policy Choices in Portuguese Agriculture, Vol. II, Dec. 1982.

The granting of agricultural subsidies raises private profit and, thus, can be used as a policy tool for supporting farmers and processors' income. However, subsidies can also be used selectively to provide incentives for expansion of economically efficient activities. An acceptable subsidy policy will reflect both income support and economic efficiency objectives. Subsidies granted to economically efficient systems provide both income support and further incentives to expand. However, when subsidies are granted to socially inefficient systems, the support to producer income comes at an economic cost, as well as a budgetary burden, since the granting of private incentives lead to resource misallocation.

Current Portuguese subsidy policy seems to be strongly influenced by the income support objectives since significant subsidies are granted to socially-inefficient commodity systems. Such policies add to short-run budgetary problems without improving, in the absence of other policies, long-run efficiency. Thus, there is a need to scrutinize the current Portuguese subsidy policy in the light of social efficient criteria. But discussion of changes in the Portuguese subsidy policy is also tied in with the issue of Portugal's accession to EC. In other words, discussed changes should take account of Portugal's impending needs to eliminate Portuguese agricultural subsidies which are in violation of EC regulations and to realign Portuguese prices to EC prices upon accession to the EC. These two objectives can be attained at a different pace: indeed the elimination of Portuguese subsidies appears to have begun well ahead of the adoption of CAP prices.

Using the 1981 Euro-social profit standard, it can be seen in Table 9 that twelve systems (among the 19 systems which are analyzed in this report) are economically efficient (i.e., positive 1981 Euro-social profit). These 12 efficient systems can be divided into 4 groups depending upon the level of private profit. The first category includes the milk/butter--traditional milk, milk/butter--advanced milk, mechanized corn, irrigated sunflower, and sunflower crusher systems. These five systems in this group are characterized by positive 1981 private profits as well as positive estimated private profits under Portuguese prices without Portuguese subsidies and under CAP prices without Portuguese subsidies. The agricultural subsidies granted to the production of pasteurized milk and butter, corn (mechanized) and sunflower (irrigated) and to the sunflower crushing system could have been reduced or even eliminated without completely removing private incentives to these socially profitable activities. It can be argued, under these circumstances, that there is no need for a transition period in the phasing out of subsidies which impinge on the systems in this group. An immediate and complete removal of all subsidies would reduce budgetary burdens but would not eliminate private incentives in these systems which are economically efficient under EC prices. The adjustment to CAP prices can also be more rapid (instead of being gradual and undertaken after Portugal's accession to the EC) since these systems' private profits under Scenario II are positive (Table 9).

The second category includes the wheat-A and B soils and lamb-JNPP systems. Characteristics of the two systems in this group are analogous with those of the first category except that their estimated private

profits under Scenario III are negative. The reduction or even the elimination of agricultural subsidies which impinge on the wheat (A and B soils) and lamb-JNPP systems would not remove all private incentives since these system's private profits under Scenario I are still positive (Table 9). In these instances, the elimination of subsidies would relieve budgetary pressures without removing entirely the private incentives in these economically efficient systems. The transition from Portuguese prices to CAP prices could, however, be more gradual for these systems since private profits under Scenarios III are negative. In other words, the impact of negative CAP price effects would reinforce that of removal of subsidies and would totally eliminate private incentives in these two systems which are economically efficient. Therefore, aids might be granted to wheat (A and B soils) and lamb (JNPP) producers to offset the negative CAP effects and boost private incentives.

The third category includes the three wheat mill activities and the non-irrigated sunflower system. Characteristics of these systems are analogous with those of the first group except that their estimated private profits under Scenario I are negative. The elimination of agricultural subsidies would remove private incentives for wheat millers and sunflower (non-irrigated) producers who would be competitive in an EC setting. The positive CAP price effects will outweigh the negative subsidy removal effects and will yield net positive accession effects for the wheat flour and non-irrigated sunflower systems. Under these conditions, it seems that, if all agricultural subsidies are eliminated, the adoption of CAP prices should be immediate (i.e., no transition period) upon Portugal's accession to EC. The simultaneous elimination of

subsidies and adoption of CAP prices would alleviate budgetary pressures and still preserve positive private incentives in these economically efficient systems since estimated private profits under Scenario III are positive (see Table 9).

The cheese-traditional milk system constitutes a fourth category. In this instance, the 1981 private profit as well as the estimated private profits under Scenarios I and III are negative (Table 9), even though the social profitability is positive. The cheese-traditional milk system represents a more clear-cut case for continued subsidy through input or factor markets or through higher wholesale prices for cheese in the period before accession. While the increase in subsidies is a budgetary burden, such action would appear to be socially justified. In the longer run a more permanent system of support for cheese may be necessary, perhaps by including this product as an intervention commodity. In the absence of such an arrangement it appears that long periods of transition to realign Portuguese subsidies and adjust prices to EC levels may also be warranted in this case.

Based on the 1981 Euro-social profit standard, seven out of the 19 systems analyzed in this report are economically inefficient (i.e., show negative 1981 Euro-social profits). The inefficient systems include the meat (except lamb-JNPP), traditional corn, and wheat (C and D soils) systems. For the two grain systems, agricultural subsidies appear to be granted for income support since 1981 private profits are positive. However, the subsidies lead to misallocation of economic resources by providing private incentives to inefficient corn and wheat producers.

For the inefficient meat systems, 1981 private profits are negative in spite of significant subsidies. Beef, pork and poultry producers seem to be only able to cover the entirety of the variable costs but only a part of the fixed costs of their operations.

Subsidies granted to the seven inefficient systems are not economically desirable. They should therefore be gradually removed and replaced by investment policies which are conducive to better technologies and more appropriate structural organization leading toward greater efficiency in these sectors. Furthermore, the empirical evidence indicates that CAP price effects will be negative and significant. Thus, it would appear that a long transition period during which Portuguese prices will adjust to EC prices is needed.

VII. Alternatives to the present Portuguese subsidy system.

The focus of Section VI was on the discussion of subsidy policy changes which would alleviate budgetary pressures while maintaining private incentives for the promotion of a more efficient use of economic resources. However, the reduction or removal of subsidies will lower private profit and, thus, could cause hardship to particular groups. There is, therefore, a need to examine the extent to which the reduction or removal of particular types of subsidy affect private profit and to explore alternative subsidies which would in the short-run, minimize sudden changes in producer income and in consumer food cost.

For these questions it is useful to make a distinction between credit, fertilizer and feed subsidies and price supports. The incidence

of these specific types of subsidy on the 19 systems is shown in Table 10. All systems, except the traditional corn and ramos flour mill systems, received credit subsidies in 1981. Relative to private profit, credit subsidies were most important in the beef-JNPP (408 percent), pork-private (299 percent), pork-JNPP (173 percent), medium espoada (130 percent), large espoada (103 percent) and large poultry (88 percent) systems. Fertilizer subsidies were, in general, most important in the grain and sunflower seed systems in 1981. The fertilizer subsidy amounted to 43 percent of private profit in the lamb-JNPP system in 1981 because of the use of pasture as animal feed in the sheep production. Feed subsidies were most important in 1981 in the meat systems except the lamb-JNPP system for reasons stated above. Price supports granted to producers were, in 1981, significant in the grain and sunflower seed systems. For the wheat mills and sunflower crushers, input subsidies were significant in 1981.

National subsidies (with perhaps the exception of a credit subsidy) are incompatible with EC regulations because, in general, such subsidies will affect trade and distort competition with other member countries 13/. More specifically, the Portuguese feed and fertilizer subsidies of recent years would not have survived entry into the EC. The support through output prices is not only incompatible but unnecessary under EC conditions, as the adoption of the CAP, with its border controls and intervention on the domestic market, takes over the role of setting domestic prices. Factor market policies are the one major area of subsidy policy where the CAP has not preempted national action.

Table 10--Importance of Different Types of Subsidies in Selected Commodity Systems, 1981

System	Credit Subsidy		Fertilizer Subsidy		Feed Subsidy		Price Support		Total	
	Esc/Unit	Percent	Esc/Unit	Percent	Esc/Unit	Percent	Esc/Unit	Percent	Esc/Unit	Percent
	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Cheese-Traditional Milk ^{2/}	1.87/kg	(21.4)	2.98/kg	(34.0)	.69/kg	(7.9)	.00/kg	(0.0)	3/7.58/kg	(86.6)
Milk/Butter-Traditional Milk ^{4/}	.15/L	5.9	.30/L	11.9	.07/L	2.8	.00/L	0.0	3/.73/L	28.9
Milk/Butter-Advanced Milk ^{4/}	2.10/L	25.1	.44/L	5.2	.32/L	3.8	.00/L	0.0	5/3.23/L	38.5
Traditional Corn	.00/kg	0.0	.35/kg	129.6	.10/kg	37.0	.00/kg	0.0	.45/kg	166.6
Mechanized Corn	.54/kg	11.5	.76/kg	16.2	.00/kg	0.0	1.71/kg	36.5	3.01/kg	64.2
Wheat-C & D Soils	1.65/kg	61.6	2.22/kg	82.8	.00/kg	0.0	1.54/kg	57.5	5.41/kg	201.9
Wheat-A & B Soils	1.13/kg	18.3	1.82/kg	29.5	.00/kg	0.0	1.54/kg	24.9	4.49/kg	72.7
Ramas Flour Mill	.00/kg	0.0	.00/kg	0.0	.00/kg	0.0	6/2.64/kg	101.5	2.64/kg	101.5
Medium Espoada	.91/kg	130.0	.00/kg	0.0	.00/kg	0.0	6/3.20/kg	457.1	4.11/kg	587.1
Large Espoada	.41/kg	102.5	.00/kg	0.0	.00/kg	0.0	5/3.03/kg	757.5	3.44/kg	860.0
Irrigated Sunflower	1.10/kg	12.0	.86/kg	9.4	.00/kg	0.0	3.10/kg	33.7	5.06/kg	55.1
Non-Irrigated Sunflower	2.76/kg	94.8	1.27/kg	43.6	.00/kg	0.0	3.10/kg	106.5	7.13/kg	244.9
Sunflower Crusher ^{7/}	.96/kg	11.5	.00/kg	0.0	.00/kg	0.0	8/2.84/kg	34.1	3.80/kg	45.6
Beef-JNPP ^{9/}	19.37/kg	(407.8)	.00/kg	0.0	5.74/kg	(120.8)	.00/kg	0.0	25.11/kg	(528.6)
Lamb-JNPP ^{9/}	43.48/kg	23.7	79.38/kg	43.1	.00/kg	0.0	.00/kg	0.0	122.86/kg	66.8
Pork-JNPP ^{9/}	12.50/kg	(172.3)	.00/kg	0.0	13.78/kg	(189.8)	.00/kg	0.0	26.28/kg	(362.1)
Pork-Private ^{9/}	12.57/kg	(299.3)	.00/kg	0.0	13.78/kg	(328.1)	.00/kg	0.0	26.35/kg	(627.4)
Poultry-Large ^{9/}	11.66/kg	(87.6)	.00/kg	0.0	6.83/kg	(51.3)	.00/kg	0.0	18.49/kg	(138.9)
Poultry-Medium ^{9/}	7.36/kg	(41.5)	.00/kg	0.0	8.19/kg	(46.1)	.00/kg	0.0	15.55/kg	(87.6)

1/ Figures are expressed as percentages of 1981 private profits. Figures in parentheses indicate negative private profits.

2/ Figures are expressed in kg of cheese.

3/ Figures includes the subsidy on milking parlor services which is not listed elsewhere.

4/ L--Liter of pasteurized milk with 2.5 percent fat.

5/ Figure includes the subsidy on milking equipment which is not listed elsewhere.

6/ Fixed purchase price for wheat.

7/ Figures are expressed in kg of sunflower meal.

8/ Fixed purchase price for seeds.

9/ Figures are expressed in kg of meat, carcass weight.

Sources: Tables 1, 3 and 5.

It is unclear, at this point in time, whether all the Portuguese credit subsidies are compatible with EC regulations; different interpretations can be given to the nature and impacts of those subsidies. For example, the Portuguese short-term credit subsidy (i.e., subsidy designated by code 31/2) would appear to be compatible with EC regulations if it is an aid to investment which is temporary and non-commodity specific. Such a subsidy would appear incompatible with EC regulations if it is a permanent aid to the functioning of the production unit without which that unit would be bankrupt. The Portuguese medium and long-term credit (i.e., subsidy designated by code 31/4) is probably incompatible with EC regulations as at present administered. However, that subsidy could become compatible if it is framed within the terms of a general socio-structural policy.

It does not appear that Portugal will have much flexibility concerning alternatives to those subsidies which are incompatible with EC regulations. Incompatible subsidies will have to be eliminated upon Portugal's accession to the EC. However, under the assumption that credit subsidy is compatible with EC regulations, decreases in private profits due to the elimination of the fertilizer and feed subsidies, as well as the price supports, can be offset by raising the credit subsidy, thus private profits. The elimination of the fertilizer and feed subsidies in the milk/butter-traditional milk system, for example, would lower that system's private profit by 11.9 and 2.8 percent, respectively (Table 10). These decreases in private profit can be offset by raising the credit subsidy by 14.7 percent above its 1981 level. In other words, under the alternate subsidy system which would be compatible with EC

regulations, the credit subsidy in the milk/butter-traditional milk system will amount to esc. .73/L or 28.9 percent of private profit (Table 10).

Among the commodities included in this report, consumer subsidies only apply to pasteurized and UHT milk and skim milk powder. Portuguese consumer subsidies on milk and milk products are not directly compatible with EC regulations but are unlikely to be found so objectionable in a Community suffering from chronic surpluses in dairy products. The elimination of these subsidies would significantly increase consumer cost (see Table 8) and reduce consumption. Present Portuguese consumer subsidies are general and benefit consumers of all income levels. An alternative to these current consumer subsidies would be some more limited consumer subsidies which are geared to low-income groups.

VIII. Conclusions

The preceeding sections have indicated the impact of the removal of the subsidy system on private profits in a number of farming and post-farm activities in Portugal. For some of these systems the effect of adopting CAP prices, as Portugal joins the EC, will reinforce the impact of the removal of subsidies and in some cases the CAP price effect will work to offset the subsidy loss. As a way of bringing out the policy conclusions it is useful to summarize the impact of these major changes in policy on these two groups of systems.

Presented below are selected characteristics of the seven commodity systems in which the subsidy effects reinforce the CAP price effects upon the elimination of all Portuguese subsidies and the adoption of CAP prices.

System	1981	1981	Estimated Private Profit	
	Euro-Social Profit	Private Profit	Scenario I	Scenario III
Cheese-Traditional Milk	1.03/kg	-8.76/kg	-16.34/kg	-30.63/kg
Traditional Corn	-.92/kg	.27/kg	-.18/kg	-1.58/kg
Mechanized Corn	1.67/kg	4.68/kg	1.67/kg	.27/kg
Wheat-C and D Soils	-2.43/kg	2.68/kg	-2.70/kg	-5.10/kg
Wheat-A and B Soils	1.05/kg	6.18/kg	1.69/kg	-.71/kg
Beef-JNPP	-163.82/kg	-4.75/kg	-29.86/kg	-46.07/kg
Lamb-JNPP	52.78/kg	184.25/kg	61.39/kg	-26.10/kg

The cheese, modern corn, wheat (A and B soils) and lamb systems are efficient under EC conditions. However, the elimination of all subsidies combined with the adoption of CAP prices will yield negative private profits and, thus, reduce incentives in these socially efficient systems. Given the Portuguese Government's apparent desire to remove present subsidies, the transition from Portuguese prices to CAP prices should be gradual to preserve private incentives in these systems. Policy measures to improve these systems productivity should be introduced during the transition period to counteract the impact of negative CAP price effects. Further assistance could be granted to the cheese system since there was, in 1981, private disincentive in a system which would be efficient under EC conditions. Subsidies granted to the traditional corn, wheat (C and D soils) and beef systems are less economically defensible since these systems are relatively inefficient. These subsidies should be gradually removed and replaced by policies which are conducive to greater productivity in these sectors.

Twelve systems were identified in which the subsidy effects offset the CAP price effects upon the elimination of all Portuguese subsidies and the adoption of CAP prices. These 12 systems and some of their selected characteristics are:

System	1981	1981	Estimated Private Profit	
	Euro-Social Profit	Private Profit	Scenario I	Scenario III
Milk/Butter-Traditional				
Milk	3.61/L	2.52/L	1.79/L	3.18/L
Milk/Butter-Modern				
Milk	7.53/L	8.37/L	5.14/L	6.52/L
Ramas Flour Mill	9.58/kg	2.60/kg	-.04/kg	9.48/kg
Medium Espoada	6.32/kg	.70/kg	-3.41/kg	6.11/kg
Large Espoada	8.69/kg	.40/kg	-3.04/kg	6.48/kg
Irrigated Sunflower	15.11/kg	9.19/kg	4.11/kg	14.75/kg
Non-Irrigated Sunflower	8.95/kg	2.91/kg	-4.24/kg	6.40/kg
Sunflower Crusher	.61/kg	8.32/kg	4.52/kg	11.32/kg
Pork-JNPP	-34.68/kg	-7.26/kg	-33.54/kg	-12.29/kg
Pork-Private	-34.68/kg	-4.20/kg	-30.55/kg	-9.23/kg
Poultry-Large	-19.11/kg	-13.32/kg	-31.81/kg	-31.34/kg
Poultry-Medium	-26.61/kg	-17.75/kg	-33.30/kg	-32.83/kg

The milk/butter, wheat flour, sunflower seeds and sunflower meal systems are efficient under EC conditions. For these systems, it appears that the immediate and complete removal of all subsidies and adjustment to CAP prices is possible since, in all cases, private profits remain positive and private incentives are preserved under these conditions.

Furthermore, private profits of the traditional milk/butter, wheat flour, sunflower seeds and sunflower meal systems will increase significantly from their 1981 levels with the immediate and complete removal of all subsidies and rapid adjustment to CAP prices.

The pork and poultry systems are inefficient under EC conditions. These systems' private profits were negative in 1981 and will remain negative with the elimination of all subsidies and the adoption of CAP prices. Subsidies granted to these systems could perhaps be removed and replaced by investment policies which are conducive to better

technologies and more appropriate structural organization leading toward greater efficiency in these sectors.

The elimination of consumer subsidies would significantly increase consumer costs for milk and milk powder. However, in the case of skim milk powder, consumer price will decrease under EC conditions. The adoption of CAP prices will increase consumer costs for butter, wheat flour, bread and pork. It will lower consumer costs for cheese, sunflower oil, beef and lamb. The impacts on consumers in various income groups has not been addressed in this study. This is undoubtedly one of the major policy issues raised by the adoption of the CAP and the removal of subsidies. In a period of economic hardship it is inconceivable that the Community would wish low income consumers to bear the main burden of policy adjustments in the agricultural area. Mechanisms exist to maintain purchasing power of vulnerable groups. These policies need to be explored in the context of Portugal's accession to the EC.

APPENDIX

Statistical Tables

Tables I-III in the Appendix present Portuguese agricultural subsidies within the framework of the budgets which were constructed by PES team members in 1982 for selected activities and commodity systems. It is recalled that agricultural subsidies are narrowly defined in this report as direct transfer payments going from the Portuguese Government to a particular agricultural sector or agent and which are identified as such in MACP official documents prepared in connection with EC membership. Agricultural subsidies are classified into five categories:

M1 = output subsidy

M2 = input subsidy

M3 = domestic factor subsidy

M4 = total subsidies received by the producer and is equal to the sum of M1, M2 and M3

M5 = consumer subsidy (i.e., direct transfer payments which take place at the distribution level)

Table I identifies agricultural subsidies which impinge upon farm and post-farm activities. Each subsidy is briefly described and designated by the code number used in the MACP subsidy classification scheme. Three estimates of subsidy per unit are presented in that table: the MACP figure and two PES estimates. There are no MACP estimates of the credit subsidies at the activity and system levels. This analysis uses exclusively PES estimates of the credit subsidies. These PES estimates are derived from the information that the private cost of capital is 2 percent per year above the rate of inflation while its social cost amounts to real rate of 8 percent per year. Interested readers are referred to the 1982 PES team report for the discussion of

domestic policies which create the divergence between the 1981 private and social costs of capital 15/.

The PES estimate of the fertilizer subsidy in Table I matches the MACP estimate. However, these estimates are for 1980 and are not for 1981. 1981 information was not available at the time of the writing of the 1982 PES team report and is still not available at the present time.

The feed subsidy is derived from subsidies in domestic yellow and white corn (4/4 and 4/5), imported yellow and white corn (4/9 and 4/10), imported sorghum (4/12), imported oilseed meal (6.1/4) and domestic oilseed meals from imported seeds (6.1/5). While 1981 information on feedgrains and oilseed meals' subsidies was available at the time of the writing of the 1982 PES team report, data on the 1981 composition of different types of feed were not. Thus, exact 1981 subsidies for different types of animal feed could not be computed. Instead, it is assumed that the 1981 feed subsidy amounts to 15 percent of the social cost of animal feed. That 15 percent subsidy applies to all types of animal feed 16/.

It should be pointed out that, since the completion of the 1982 PES team report, additional information has enabled the computation of 1981 subsidies by type of animal feed. Briefly, total subsidy to feedstuffs amounted to esc. 13.3 billion in 1981. The feed subsidies were equal to esc. 34.9/kg (liveweight) for hog, esc. 27.2/kg for poultry, esc. 22.4/kg for beef cattle, esc. 11.6/kg for sheep and esc. 1.4/kg for dairy cattle.

The PES estimates in Table I of the producer subsidies and the input subsidies on wheat and sunflower seeds used by millers and crushers are different from MACP figures. In the cases of corn, wheat and sunflower seeds, producer subsidies are equal to the differences between the producer minimum guaranteed prices and c.i.f. import prices. The input subsidies on wheat and sunflower seeds used by millers and crushers are equal to the differences between c.i.f. import prices and EPAC and IAPO's fixed sale prices. PES estimates are used in this analysis.

Table II presents agricultural subsidies which impinge on the 19 commodity systems which are analyzed in the 1982 PES team report. The remarks concerning Table I estimates also apply to those in Table II.

Agricultural subsidies which impinge on the 19 commodity systems are presented in Table III by activity and subsidy types. The additional information in Table III relates to the consumer subsidies, M5. It is recalled that a consumer subsidy is defined, in this report, as a direct transfer payment which takes place at the distribution level. Because of the diversity of the systems under consideration, the term 'consumers' refers to feed mills, flour mills, oilseed crushers and final consumers. Consumers' identity is explicitly defined for each system for purposes of clarity.

Among the commodities included in Table III, final consumers benefited from direct subsidies only in the case of pasteurized milk in 1981. Feed mills received in 1981 significant subsidies for the utilization of domestic corn and sunflower meal. Wheat millers and

sunflower crushers also received significant subsidies through the use of domestic wheat and sunflower seeds.

Finally, Table IV presents 1981 Portuguese prices for selected commodities and comparable EC prices.

Table I--Subsidies at activity level, 1981

Activity/Budget	MACP Classification of Subsidies		Subsidy per unit at activity level			Type of subsidy
	Description	Code	----- Esc/Unit -----			
			MACP Figure	PES Estimate	PES Estimate	
Traditional Milk/ Budget 1 <u>1/</u>	Fertilizers used on corn	23/1	3.5/kg	1,050/ha	720/h/y	M2
	Fertilizers used on rye-grass	23/1	3.5/kg	1,050/ha	1,050/h/y	M2
	Mixed feed in corn	NA	NA	299/ha	205/h/y	M2
	Domestic yellow corn	4/4	4.4/kg	--	--	M2
	Domestic white corn	4/5	4.6/kg	--	--	M2
	Imported yellow corn	4/9	2.4/kg	--	--	M2
	Imported white corn	4/10	0	--	--	M2
	Imported sorghum	4/12	2.1/kg	--	--	M2
	Imported oilseed meal	6.1/4	NA	--	--	M2
	Domestic oilseed meal from imported seeds	6.1/5	NA	--	--	M2
	Mixed feed in rye-grass	2/	NA	198/ha	198/h/y	M2
	Milking parlor services	11.1/Tf	0.2/L	--	1,200/h/y	M2
Cheese Production by Union of Dairy Coop./Budget 2	Short-term credit	31/2	NA	--	1.87/kg	M3
	Medium and long-term credit	31/4	NA	--		M3
Advanced Milk/ Budget 3 <u>1/</u>	Short-term credit	31/2	NA	--	1,053/h/y	M3
	Medium and long-term credit	31/4	NA	--	46,899/h/y	M3
	Milking equipment	11.1/1f	NA	--	17,542/h/y	M3
	Short-term credit in corn silage	31/2	NA	131/ha	262/h/y	M3
	Med. and long-term credit in corn silage	31/4	NA	13,920/ha	27,840/h/y	M3
	Fertilizers used on corn silage	23/1	3.5/kg	6,112/ha	12,224/h/y	M2
	Short-term credit in rye grass	31/2	NA	123/ha	369/h/y	M3
	Med. and long-term credit in rye grass	31/4	NA	5,246/ha	15,747/h/y	M3
	Fertilizers used on rye grass	23/1	3.5/kg	2,825/ha	8,475/h/y	M2
	Mixed feed in advanced milk	2/	NA	1.9/kg	14,954/h/y	M2
Pasteurized Milk and Butter Pro- duced by Union of Dairy Coop/ Budget 4	Short-term credit	31/2	NA	--	14.34/100L	M3
	Medium and long-term credit	31/4	NA	--		M3
Traditional Corn/ Budget 5	Fertilizers	23/1	3.5/kg	--	1,050/ha	M2
	Mixed feed	2/	NA	--	299/ha	M2
Modern Corn- Ribatejo/Budget 6	Short-term credit	31/2	NA	--	743/ha	M3
	Medium and long-term credit	31/4	NA	--	2,538/ha	M3
	Fertilizers	23/1	3.5/kg	--	4,532/ha	M2
	Producer guaranteed price	--	--	--	10,260/ha	M1
	Yellow corn	4/4	4.4/kg	--	--	M1
	White corn	4/5	4.6/kg	--	--	M1

See footnotes at end of table.

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Table I--Subsidies at activity level, 1981 (continued)

Activity/Budget	MACP Classification of Subsidies		Subsidy per unit at activity level			Type of subsidy
	Description	Code	----- Esc/Unit -----			
			MACP Figure	PES Estimate	PES Estimate	
Wheat-C and D Soils/Budget 7	Short-term credit	31/2	NA	--	480/ha	M3
	Medium and long-term credit	31/4	NA	--	1,744/ha	M3
	Fertilizers	23/1	3.5/kg	--	2,998/ha	M2
	Producer guaranteed price	4/1	4.2/kg	--	2,079/ha	M1
Wheat-A and B Soils/Budget 8	Short-term credit	31/2	NA	--	501/ha	M2
	Medium and long-term credit	31/4	NA	--	1,758/ha	M2
	Fertilizers	23/1	3.5/kg	--	3,648/ha	M3
	Producer guaranteed price	4/1	4.2/kg	--	3,080/ha	M1
Ramas Flour Mill/ Budget 9 4/	Imported yellow corn	4/9	2.4/kg	3.0/kgco	4.5/kgcof1	M2
	Imported wheat	4/7	3.2/kg	2.3/kgwh	2.6/kgwhf1	M2
	Domestic wheat	4/1	4.2/kg	2.3/kgwh	2.6/kgwhf1	M2
Espoda Flour Mill (3.5 mt/hour)/ Budget 10 4/	Short-term credit	31/2	NA	--	0.01/kgwhf1	M3
	Medium and long-term credit	31/4	NA	--	0.9/kgwhf1	M3
	Imported wheat	4/7	3.2/kg	2.3/kgwh	3.2/kgwhf1	M2
	Domestic wheat	4/1	4.2/kg	2.3/kgwh	3.2/kgwhf1	M2
Espoda Flour Mill (8 mt/hour)/ Budget 11 4/	Short-term credit	31/2	NA	--	0.01/kgwhf1	M3
	Medium and long-term credit	31/4	NA	--	0.4/kgwhf1	M3
	Imported wheat	4/7	3.2/kg	2.3/kgwh	3.0/kgwhf1	M2
	Domestic wheat	4/1	4.2/kg	2.3/kgwh	3.0/kgwhf1	M2
	Imported rye	4/8	0	--	--	M2
	Domestic rye	4/2	5.1/kg	1.7/kgry	3.0/kgryf1	M2
Sunflower-Ribatejo/ Budget 12 5/	Short-term credit	31/2	NA	299/ha	0.17/kgss	M3
	Medium and long-term credit	31/4	NA	1,626/ha	0.93/kgss	M3
	Fertilizers	23/1	3.5/kg	1,498/ha	0.86/kgss	M2
	Producer guaranteed price	6.1/3	NA	5,460/ha	3.12/kgss	M1
Sunflower-Alentejo/ Budget 13 5/	Short-term credit	31/2	NA	144/ha	0.29/kgss	M3
	Medium and long-term credit	31/4	NA	1,237/ha	2.47/kgss	M3
	Fertilizers	23/1	3.5/kg	637/ha	1.27/kgss	M2
	Producer guaranteed price	6.1/3	NA	1,560/ha	3.12/kgss	M1
Sunflower Crusher/ Budget 14 6/	Short-term credit	31/2	NA	--	0.41/kgsm	M3
	Medium and long-term credit	31/4	NA	--	0.55/kgsm	M3
	Fixed purchase price for seeds	6.1/3	NA	--	2.84/kgsm	M2
Beef Feedlot- Ribatejo/Budget 15 7/	Short-term credit	31/2	NA	87,750/u	3.73/kg1w	M3
	Medium and long-term credit	31/4	NA	155,766/u	6.62/kg1w	M3
	Mixed feed	2/	NA	73,350/u	3.12/kg1w	M2

See footnotes at end of table.

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Table I--Subsidies at activity level, 1981 (continued)

Activity/Budget	MACP Classification of Subsidies		Subsidy per unit at activity level			Type of subsidy
	Description	Code	----- Esc/Unit -----			
			MACP Figure	PES Estimate	PES Estimate	
Beef Slaughter by JNPP/Budget 16	Short-term credit	31/2	NA	--	0.34/kg	M3
	Medium and long-term credit	31/4	NA	--		M3
Hogs-Confined System-Ribatejo/Budget 17 8/	Short-term credit	31/2	NA	114,855/n	1.10/kglw	M3
	Medium and long-term credit	31/4	NA	849,772/n	8.14/kglw	M3
	Mixed feed	2/	NA	1,079,400/n	10.34/kglw	M2
Hog Slaughter by Private Firm/Budget 18	Short-term credit	31/2	NA	--	0.25/kg	M3
	Medium and long-term credit	31/4	NA	--		M3
Hog Slaughter by JNPP/Budget 19	Short-term credit	31/2	NA	--	0.18/kg	M3
	Medium and long-term credit	31/4	NA	--		M3
Sheep-Alentejo/Budget 20 9/	Short-term credit	31/2	NA	5,918/a	1.25/kglw	M3
	Medium and long-term credit	31/4	NA	30,936/a	6.51/kglw	M3
	Feed from pasture	--	--	--	--	--
	Short-term credit on oats	31/2	NA	7,100/20 ha	1.49/kglw	M3
	Medium and long-term credit on oats	31/4	NA	31,860/20 ha	6.71/kglw	M3
	Fertilizers on oats	23/1	3.5/kg	44,000/20 ha	9.26/kglw	M2
	Short-term credit on native pasture	31/2	NA	1,840/40 ha	0.39/kglw	M3
	Med. and long-term credit on native past.	31/4	NA	2,280/40 ha	0.48/kglw	M3
	Fertilizers on native pasture	23/1	3.5/kg	33,600/40 ha	7.07/kglw	M2
	Short-term credit in mixed pasture	31/2	NA	2,660/10 ha	0.56/kglw	M3
	Med. and long-term credit in mixed past.	31/4	NA	3,110/10 ha	0.65/kglw	M3
	Fertilizers in mixed pasture	23/1	3.5/kg	24,110/10 ha	5.08/kglw	M2
	Short-term credit in 1st year clover	31/2	NA	3,550/10 ha	0.75/kglw	M3
	Med. and long-term credit in 1st yr clover	31/4	NA	5,400/10 ha	1.14/kglw	M3
	Fertilizers in 1st year clover	23/1	3.5/kg	26,750/10 ha	5.63/kglw	M2
Short-term credit in 2nd year clover	31/2	NA	1,550/10 ha	0.33/kglw	M3	
Med. and long-term credit in 2nd yr clover	31/4	NA	2,000/10 ha	0.42/kglw	M3	
Fertilizers in 2nd year clover	23/1	3.5/kg	30,650/10 ha	6.45/kglw	M2	
Short-term credit in 3-5 year clover	31/2	NA	1,740/30 ha	0.37/kglw	M3	
Med. and long-term credit in 3-5 yr clover	31/4	NA	2,580/30 ha	0.54/kglw	M3	
Fertilizers in 3-5 year clover	23/1	3.5/kg	29,400/30 ha	6.19/kglw	M2	
Lamb Slaughter by JNPP/Budget 21	Short-term credit	31/2	NA	--	0.32/kg	M3
	Medium and long-term credit	31/4	NA	--		M3
Broiler Producer-Large Scale/Budget 22	Short-term credit	31/2	NA	--	2.79/kglw	M3
	Medium and long-term credit	31/4	NA	--	1.28/kglw	M3
	Mixed feed	2/	NA	--	5.25/kglw	M2

See footnotes at end of table.

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Table I--Subsidies at activity level, 1981 (continued)

Activity/Budget	MACP Classification of Subsidies		Subsidy per unit at activity level			Type of subsidy
	Description	Code	----- Esc/Unit -----			
			MACP Figure	PES Estimate	PES Estimate	
Broiler Producer- Medium Scale/ Budget 23	Short-term credit Medium and long-term credit Mixed feed	31/2 31/4 2/	NA NA NA	-- -- --	0.07/kglw 0.69/kglw 6.30/kglw	M3 M3 M2
Poultry Slaughter by Private Firm/ Budget 24	Short-term credit Medium and long-term credit	31/2 31/4	NA NA	-- --	4.10/kg 2.27/kg	M3 M3

NA = not available.

1/ h/y--Unit of measure defined as a herd of 4 cows producing 6,000 liters of milk per year in the traditional milk production activity; and, herd of 13 animals producing 48,000 liters of milk per year in the advanced milk production activity.

2/ As it was indicated above, subsidy in mixed feed is derived from subsidies in domestic yellow and white corn (4/4 and 4/5), imported yellow and white corn (4/9 and 4/10), imported sorghum (4/12), imported oilseed meal (6.1/4) and domestic oilseed meals from imported seeds (6.1/5).

3/ Included in corresponding corn silage figures.

4/ kgco--kg of corn; kgcofl--kg of corn flour; kgwh--kg of wheat; kgwhfl--kg of wheat flour; kgry--kg of rye, and kgryfl--kg of rye flour.

5/ kgss--kg of sunflower seeds.

6/ kgsm--kg of sunflower meal.

7/ u--Unit of measure defined as a herd of 50 animals producing 23,513 kg of beef, liveweight; kglw--kg liveweight.

8/ n--Unit of measure defined as a herd of 100 sows, 8 boars, 1,200 feeder pigs, 18 replacement sows and producing 104,400 kg of pork, liveweight (kglw).

9/ a--Unit of measure defined as a herd of 300 ewes, 12 rams, 255 lambs, 65 replacement ewes and producing 4,750 kg of lamb, liveweight (kglw).

Sources: Procalfer, Comparative Advantage and Policy Choices in Portuguese Agriculture, Vol. II, Dec. 1982; and, MACP, Aides Nacionales, Portugal-Adhesion/Agriculture, DOC-P-AN-4-82, Nov. 1982.

Table II--Subsidies at System Level, 1981

System/Budget	MACP Classification of Subsidies		Subsidy per unit	Total subsidy	Type	
	Description	Code	of product at system level (Esc/Unit)	disbursed at system level (Esc/Unit)	of Subsidy	
Cheese-Traditional Milk/Budgets 2 and 1 (Conversion factor .0017)	Fertilizers used on corn	23/1	1.20/kgCh 1/	7,200/ha	M2	
	Fertilizers used on rye-grass	23/1	1.78/kgCh	10,500/ha	M2	
	Mixed feed in corn	2/	0.35/kgCh	2,500/ha	M2	
	Mixed feed in rye-grass	2/	0.34/kgCh	1,980/ha	M2	
	Milking parlor services	11.1/Tf	2.04/kgCh	12,000/ha	M2	
	Short-term credit in cheese	31/2}	1.87/kgCh	10,900/ha	M3	
	Medium and long-term credit in cheese	31/4}			M3	
	Total	--	7.58/kgCh	45,176/ha	--	
Milk/Butter-Traditional Milk/Budgets 4 and 1 (Conversion factor .0167)	Fertilizers used on corn	23/1	12.00/Mb 3/	7,200/ha	M2	
	Fertilizers used on rye-grass	23/1	17.50/Mb	10,500/ha	M2	
	Mixed feed in corn	2/	3.42/Mb	2,500/ha	M2	
	Mixed feed in rye-grass	2/	3.30/Mb	1,980/ha	M2	
	Milking parlor services	11.1/Tf	20.04/Mb	12,000/ha	M2	
	Short-term credit in milk/butter	31/2}	14.24/Mb	8,604/ha	M3	
	Medium and long-term credit in milk/butter	31/4}			M3	
	Total	--	70.60/Mb	42,784/ha	--	
Milk/Butter - Advanced Milk/Budgets 4 and 3 (Conversion factor .0020)	Short-term credit in advanced milk	31/2	2.16/Mb 3/	5,265/ha	M3	
	Medium and long-term credit in advanced milk	31/4	96.11/Mb	234,495/ha	M3	
	Milking equipment	11.1/1	35.95/Mb	87,710/ha	M3	
	Short-term credit in corn silage	31/2	0.54/Mb	1,310/ha	M3	
	Medium and long-term credit in corn silage	31/4	57.05/Mb	139,050/ha	M3	
	Fertilizers used on corn silage	23/1	25.05/Mb	61,120/ha	M2	
	Short-term credit in rye grass	31/2	0.76/Mb	1,845/ha	M3	
	Medium and long-term credit in rye grass	31/4	32.27/Mb	78,735/ha	M3	
	Fertilizers used on rye grass	23/1	17.37/Mb	42,375/ha	M2	
	Mixed feed in advanced milk	2/	30.64/Mb	74,770/ha	M2	
	Short-term credit in past. milk and butter	31/2}	14.34/Mb	34,416/ha	M3	
	Medium and long-term credit in past. milk and butter	31/4}			M3	
		Total	--	312.24/Mb	761,091/ha	--
	Traditional Corn/Budget 5 (Assumed yield 3,000 kg/ha)	Fertilizers	23/1	0.35/kg	1,050/ha	M2
Mixed feed		2/	0.10/kg	299/ha	M2	
Total		--	0.45/kg	1,349/ha	--	
Mechanized Corn/Budget 6 (Assumed yield 6,000 kg/ha)	Short-term credit	31/2	0.12/kg	743/ha	M3	
	Medium and long-term credit	31/4	0.42/kg	2,538/ha	M3	
	Fertilizers	23/1	0.76/kg	4,532/ha	M2	
	Producer guaranteed price	4/4,4/5	1.71/kg	10,260/ha	M1	
	Total	--	3.01/kg	18,073/ha	--	

See footnotes at end of table.

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Table II--Subsidies at System Level, 1981 (continued)

System/Budget	MACP Classification of Subsidies		Subsidy per unit of product at system level (Esc/Unit)	Total subsidy disbursed at system level (Esc/Unit)	Type of Subsidy
	Description	Code			
Wheat - C and D Soils/Budget 7 (Assumed yield 1,350 kg/ha)	Short-term credit	31/2	0.36/kg	480/ha	M3
	Medium and long-term credit	31/4	1.29/kg	1,744/ha	M3
	Fertilizers	23/1	2.22/kg	2,998/ha	M2
	Producer guaranteed price	4/1	1.54/kg	2,079/ha	M1
	Total	--	5.41/kg	7,301/ha	--
Wheat - A and B Soils/Budget 8 (Assumed yield 2,000 kg/ha)	Short-term credit	31/2	0.25/kg	501/ha	M3
	Medium and long-term credit	31/4	0.88/kg	1,758/ha	M3
	Fertilizers	23/1	1.82/kg	3,648/ha	M2
	Producer guaranteed price	4/1	1.54/kg	3,080/ha	M1
	Total	--	4.49/kg	8,987/ha	--
Ramas Flour Mill/Budget 9 (Output 840 mt wheat flour) (Conversion ratio/wheat .87) (Conversion ratio/corn .67)	Imported yellow corn (360 mt)	4/9a	4.50/kgCF1 4/	103/pk	M2
	Imported wheat (492 mt)	4/7	2.64/kgWF1 5/	139/pk	M2
	Domestic wheat (492 mt)	4/1	2.64/kgWF1	139/pk	M2
	Total	--	9.78/kgWF1	381/pk	--
Medium Espoada/Budget 10 (Output 6,998 mt wheat flour) (Conversion ratio .72)	Short-term credit	31/2	0.01/kgWF1	1/pk	M3
	Medium and long-term credit	31/4	0.91/kgWF1	25/pk	M3
	Imported wheat (7,546 mt)	4/7	3.19/kgWF1	72/pk	M2
	Domestic wheat (2,504 mt)	4/1	3.19/kgWF1	24/pk	M2
	Total	--	7.30/kgWF1	122/pk	--
Large Espoada/Budget 11 (Output 29,216 mt wheat flour) (Conversion ratio .76)	Short-term credit	31/2	0.01/kgWF1	1/pk	M3
	Medium and long-term credit	31/4	0.37/kgWF1	27/pk	M3
	Imported wheat	4/1	3.03/kgWF1	44/pk	M2
	Domestic wheat	4/7	3.03/kgWF1	169/pk	M2
	Domestic rye	4/2	5.00/kgRF1 6/	10/pk	M2
Total	--	11.44/kgWF1	251/pk	--	
Irrigated Sunflower/Budget 12 (Assumed yield 1,750 kg/ha)	Short-term credit	31/2	0.17/kgS 7/	299/ha	M3
	Medium and long-term credit	31/4	0.93/kgS	1,626/ha	M3
	Fertilizers	23/1	0.86/kgS	1,498/ha	M2
	Producer guaranteed price	6.1/3	3.10/kgS	5,425/ha	M1
	Total	--	5.06/kgS	8,848/ha	--
Non-Irrigated Sunflower/Budget 13 (Assumed yield 500 kg/ha)	Short-term credit	31/2	0.29/kgS	144/ha	M3
	Medium and long-term credit	31/4	2.47/kgS	1,237/ha	M3
	Fertilizers	23/1	1.27/kgS	637/ha	M2
	Producer guaranteed price	6.1/3	3.10/kgS	1,550/ha	M1
	Total	--	7.13/kgS	3,568/ha	--
Sunflower Crusher/Budget 14 (Output 32,040 mt meal)	Short-term credit	31/2	0.41/kgM 8/	1/pk	M3
	Medium and long-term credit	31/4	0.55/kgM	1/pk	M3
	Fixed purchase price for seeds	6.1/3	2.84/kgM	1/pk	M2
	Total	--	3.80/kgM	3/pk	--

See footnotes at end of table.

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Table II--Subsidies at System Level, 1981 (continued)

System/Budget	MACP Classification of Subsidies		Subsidy per unit	Total subsidy	Type
	Description	Code	of product at system level (Esc/Unit)	disbursed at system level (Esc/Unit)	of Subsidy
Beef - JNPP/Budgets 15 and 16 (Output 23,513 kg liveweight) (Conversion ratio .544)	Short-term credit--beef feedlot	31/2	6.86/kgC 9/	22/pk	M3
	Medium and long-term credit--beef feedlot	31/4	12.17/kgC	39/pk	M3
	Mixed feed--beef feedlot	2/	5.74/kgC	18/pk	M2
	Credit - JNPP slaughterhouse	3172 } 31/4 }	0.34/kgC	1/pk	M3
	Total	--	25.11/kgC	80/pk	--
Lamb - JNPP/Budgets 20 and 21 (Output 4,750 kg liveweight) (Conversion ratio .500)	Short term credit -- sheep	31/2	2.50/kgC	3/pk	M3
	Medium and long-term credit -- sheep	31/4	13.02/kgC	18/pk	M3
	Feed from pasture -- sheep	10/	106.65/kgC	149/pk	--
	Short-term credit in oats	3172	2.98/kgC	4/pk	M3
	Medium and long-term credit in oats	31/4	13.42/kgC	19/pk	M3
	Fertilizers on oats	23/1	18.52/kgC	26/pk	M2
	Short-term credit in native pasture	31/2	0.78/kgC	1/pk	M3
	Med. and long-term crdt in native pasture	31/4	0.96/kgC	1/pk	M3
	Fertilizers on native pasture	23/1	14.14/kgC	20/pk	M2
	Short-term credit in mixed pasture	31/2	1.12/kgC	2/pk	M3
	Med. and long-term crdt in mixed pasture	31/4	1.30/kgC	2/pk	M3
	Fertilizers on mixed pasture	23/1	10.16/kgC	14/pk	M2
	Short-term credit in 1st year clover	31/2	1.50/kgC	2/pk	M3
	Med. and long-term crdt in 1st yr clover	31/4	2.28/kgC	3/pk	M3
	Fertilizers on 1st year clover	23/1	11.26/kgC	16/pk	M2
	Short-term credit in 2nd year clover	31/2	0.33/kgC	1/pk	M3
	Med. and long-term crdt in 2nd yr clover	31/4	0.84/kgC	1/pk	M3
	Fertilizers on 2nd year clover	23/1	12.90/kgC	18/pk	M2
	Short-term credit in 3-5 year clover	31/2	0.74/kgC	1/pk	M3
	Med. and long-term crdt in 3-5 yr clover	31/4	1.08/kgC	1/pk	M3
Fertilizers on 3-5 year clover	23/1	12.38/kgC	17/pk	M2	
Credit - JNPP slaughterhouse	3172 } 31/4 }	0.32/kgC	1/pk	M3	
Total	--	122.48/kgC	171/pk	--	
Pork - JNPP/Budgets 17 and 19 (Output 104,440 kg liveweight) (Conversion ratio .75)	Short-term credit - Hog	31/2	1.47/kgC	4/pk	M3
	Medium and long-term credit - Hog	31/4	10.85/kgC	31/pk	M3
	Mixed feed - Hog	2/	13.78/kgC	39/pk	M2
	Credit - JNPP slaughterhouse	3172 } 31/4 }	0.18/kgC	1/pk	M3
	Total	--	26.28/kgC	75/pk	--
Pork - Private/Budgets 17 and 18 (Output 104,440 kg liveweight) (Conversion ratio .75)	Short-term credit - Hog	31/2	1.47/kgC	4/pk	M3
	Medium and long-term credit - Hog	31/4	10.85/kgC	31/pk	M3
	Mixed feed - Hog	2/	13.78/kgC	39/pk	M2
	Credit - Private slaughterhouse	3172 } 31/4 }	0.25/kgC	1/pk	M3
	Total	--	26.35/kgC	75/pk	--

See footnotes at end of table.

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Table II--Subsidies at System Level, 1981 (continued)

System/Budget	MACP Classification of Subsidies		Subsidy per unit	Total subsidy	Type
	Description	Code	of product at system level (Esc/Unit)	disbursed at system level (Esc/Unit)	of Subsidy
Poultry-Large/Budgets 22 and 24 (Output 850,000 kg liveweight) (Conversion ratio .769)	Short-term credit - Broiler	31/2	3.63/kgC	58/pk	M3
	Medium and long-term credit - Broiler	31/4	1.66/kgC	26/pk	M3
	Mixed feed - Broiler	2/	6.83/kgC	109/pk	M2
	Short-term credit - Slaughterhouse	31/2	4.10/kgC	65/pk	M3
	Medium and long-term credit - Slaughterhouse	31/4	2.27/kgC	36/pk	M3
	Total	--	18.49/kgC	294/pk	--
Poultry-Medium/Budgets 23 and 24 (Output 72,000 kg liveweight) (Conversion ratio .769)	Short-term credit - Broiler	31/2	0.09/kgC	3/pk	M3
	Medium and long-term credit - Broiler	31/4	0.90/kgC	33/pk	M3
	Mixed feed - Broiler	2/	8.19/kgC	302/pk	M2
	Short-term credit - Slaughterhouse	31/2	4.10/kgC	152/pk	M3
	Medium and long-term credit - Slaughterhouse	31/4	2.27/kgC	84/pk	M3
	Total	--	15.55/kgC	574/pk	--

1/ kgCh - kg of cheese.

2/ Subsidy in mixed feed is derived from subsidies in domestic yellow and white corn (4/4 and 4/5), imported yellow and white corn (4/9 and 4/10), imported sorghum (4/12), imported oilseed (6.1/4) and domestic meal produced from imported seeds (6.1/5).

3/ Mb - Defined as 97.2 liters of pasteurized milk with 2.5 percent fat and 1.19 kg of butter.

4/ kgCF1 - kg of corn flour.

5/ kgWF1 - kg of wheat flour.

6/ kgRF1 - kg of rye flour.

7/ kgS - kg of sunflower seeds.

8/ kgM - kg of sunflower meal.

9/ kgC - kg carcass.

10/ Figure includes all subsidies related to oats, native pasture, mixed pasture and 1st - 5th year clovers which are listed below.

11/ pk - 1,000 esc. of capital stock's private value.

Sources: Procalfer, Comparative Advantage and Policy Choices in Portuguese Agriculture, Vol. II, Dec. 1982; and MACP, Aides Nacionales, Portugal-Adhesion/Agriculture, DUC-P-AN-4-82, Nov. 1982.

Table III--Producer, input, domestic factor and consumer subsidies in selected activities,
1981 1/

System	Activity	Total subsidy at activity level	Subsidy per unit of final product				Total subsidy per unit of final product
			M1	M2	M3	M5	
			----- Esc/Unit -----				
Cheese - Traditional Milk	Traditional milk 2/ Transport	3,373/h/y	--	6.07	--	--	7.94/kgCh 6.07/kgCh
	Cheese Transport	1.87/kgCh	--	--	1.87	--	1.87/kgCh
	Retail to final consumers	--	--	--	--	--	--
Milk/Butter - Traditional Milk	Traditional milk 3/ Transport	3,373/h/y	--	0.58	--	--	8.40/L .58/L
	Pasteurized milk and butter Transport	.15/L	--	--	0.15	--	.15/L
	Retail to final consumers	7.67/L	--	--	--	7.67	7.67/L
Milk/Butter - Advanced Milk	Advanced milk 4/ Transport	145,365/h/y	--	.77	2.35	--	10.94/L 3.12/L
	Pasteurized milk and butter Transport	.15/L	--	--	0.15	--	.15/L
	Retail to final consumers	7.67/L	--	--	--	7.67	7.67/L
Traditional Corn	Traditional corn	1,349/ha	--	0.45	--	--	.45/kgCo
	On-farm consumption 5/	--	--	--	--	--	--
Mechanized Corn	Mechanized corn Transport	18,073/ha	1.71	0.76	0.54	--	6.67/kgCo 3.01/kgCo
	Retail to feed mills	3.66/kgCo	--	--	--	3.66	3.66/kgCo
Wheat - C and D soils	Wheat on C and D soils Transport	7,301/ha	1.54	2.22	1.65	--	9.72/kgWh 5.41/kgWh
	Retail to flour mills 6/	4.31/kgWh	--	--	--	4.31	4.31/kgWh
Wheat - A and B soils	Wheat on A and B soils Transport	8,987/ha	1.54	1.82	1.03	--	8.80/kgWh 4.49/kgWh
	Retail to flour mills	4.31/kgWh	--	--	--	4.31	4.31/kgWh
Ramas Flour Mill	Ramas flour mill 7/ Transport	4.95/kgWhF1	--	4.95	--	--	4.95/kgWhF1 4.95/kgWhF1
	Retail to final consumers	--	--	--	--	--	--
Medium Espoda	Medium Espoda Transport	6.90/kgWhF1	--	5.99	0.91	--	6.90/kgWhF1 6.90/kgWhF1
	Retail to final consumers	--	--	--	--	--	--

See footnotes at end of table.

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Table III--Producer, input, domestic factor and consumer subsidies in selected activities, 1981 1/ (continued)

System	Activity	Total subsidy at activity level	Subsidy per unit of final product				Total subsidy per unit of final product
			H1	H2	H3	H5	
			----- Esc/Unit -----				
Large Espoada	: Large Espoada	6.05/kgWhF1	--	5.67	0.38	--	6.05/kgWhF1
	: Transport						
	: Retail to final consumers	--	--	--	--	--	
Irrigated Sunflower	: Sunflower-Ribatejo	5.06/kgSs	3.10	0.86	1.10	--	5.06/kgSs
	: Transport						
	: Retail to crushers 8/	2.66/kgSs	--	--	--	2.66	2.66/kgSs
Non-Irrigated Sunflower	: Sunflower-Alentejo	7.13/kgSs	3.10	1.27	2.76	--	7.13/kgSs
	: Transport						
	: Retail to crushers	2.66/kgSs	--	--	--	2.66	2.66/kgSs
Sunflower Crusher	: Sunflower crusher 9/	3.80/kgSm	--	2.84	0.96	--	3.80/kgSm
	: Transport						
	: Retail to feed mills	10.12/kgSm	--	--	--	10.12	10.12/kgSm
Beef - JNPP	: Beef feedlot 10/	13.47/kgLw	--	5.74	19.03	--	24.77/kgCa
	: Transport						
	: Beef slaughter by JNPP	0.34/kgCa	--	--	0.34	--	0.34/kgCa
	: Transport						
	: Retail to final consumers	--	--	--	--	--	
Lamb - JNPP	: Sheep production	61.27/kgLw	--	79.36	42.85	--	122.21/kgCa
	: Transport						
	: Lamb slaughter by JNPP	0.32/kgCa	--	--	0.32	--	0.32/kgCa
	: Transport						
	: Retail to final consumers	--	--	--	--	--	
Pork - JNPP	: Hog Production	19.58/kgLw	--	13.78	12.32	--	26.10/kgCa
	: Transport						
	: Hog slaughter by JNPP	0.18/kgCa	--	--	0.18	--	0.18/kgCa
	: Transport						
	: Retail to final consumers	--	--	--	--	--	
Pork - Private	: Hog production	19.58/kgLw	--	13.78	12.32	--	26.10/kgCa
	: Transport						
	: Hog slaughter by private firm	0.25/kgCa	--	--	0.25	--	0.25/kgCa
	: Transport						
	: Retail to final consumers	--	--	--	--	--	

See footnotes at end of table.

-- continued.

Table III--Producer, input, domestic factor and consumer subsidies in selected activities,
1981 ^{1/} (continued)

System	Activity	Total subsidy at activity level	Subsidy per unit of final product				Total subsidy per unit of final product
			M1	M2	M3	M5	
			----- Esc/Unit -----				
Poultry - Large	:Broiler production - large	: 9.32/kgLw	--	6.83	5.29	--	12.12/kgCa
	: Transport						
	:Poultry slaughter by private : firm	: 6.37/kgCa	--	--	6.37	--	6.37/kgCa
	: Transport						
	:Retail to final consumers	: --	--	--	--	--	
Poultry - Medium	:Broiler production - medium	: 7.06/kgLw	--	8.19	.99	--	9.18/kgCa
	: Transport						
	:Poultry slaughter by private : firm	: 6.37/kgCa	--	--	6.37	--	6.37/kgCa
	: Transport						
	:Retail to final consumers	: --	--	--	--	--	--

^{1/} Consumer subsidy is defined in this report as direct transfer payments which take place between the wholesale and retail level. Because of the diversity of the systems under consideration, the term consumers refers to feed mills, flour mills, oilseed crushers and final consumers. Consumers' identity is explicitly defined for each system for purposes of clarity.

^{2/} h/y -- Herd of 4 cows producing 6,000 liters of milk per year; kgCh -- kg of cheese.

^{3/} h/y -- Herd of 4 cows producing 6,000 liters of milk per year; L -- liter of pasteurized milk with 2.5 percent fat.

^{4/} h/y -- Herd of 13 cows producing 48,000 liters of milk per year; L -- liter of pasteurized milk with 2.5 percent fat.

^{5/} kgCo -- kg of corn.

^{6/} kgWh -- kg of wheat.

^{7/} kgWhFl -- kg of wheat flour.

^{8/} kgSs -- kg of sunflower seeds.

^{9/} kgSm -- kg of sunflower meal.

^{10/} kgLw -- kg of meat, live weight; kgCa -- kg of meat, carcass weight.

Sources: Procalfer, Comparative Advantage and Policy Choices in Portuguese Agriculture, Vol. II, Dec. 1982; and, MACP, Aides Nacionais, Portugal-Adhesion/Agriculture, DOC-P-AH-4-82, Nov. 1982.

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Table IV--Comparison of Portuguese and EC
Prices, 1981

Commodity	Portugal	EC
	-- Esc/kg --	
Raw milk (3.4% fat)	15.48 ^{1/}	16.87 ^{2/}
Skim milk powder	132.99 ^{3/}	101.95 ^{4/}
Cheese	224.00 ^{3/}	209.71 ^{5/}
Butter	153.00 ^{3/}	220.99 ^{4/}
Corn	13.00 ^{1/}	11.60 ^{4/}
Wheat	14.00 ^{1/}	11.60 ^{4/}
Wheat flour	15.50 ^{6/}	25.02 ^{5/}
Beef (farm level)	117.54 ^{7/}	101.46 ^{8/}
Pigmeat (farm level)	78.75 ^{7/}	75.64 ^{9/}
Sheepmeat (farm level)	148.00 ^{7/}	105.47 ^{9/}
Poultry (farm level)	56.00 ^{7/}	45.04 ^{9/}
Beef (wholesale level)	216.54 ^{3/}	200.33 ^{4/}
Pigmeat (wholesale level)	84.63 ^{3/}	105.88 ^{4/}
Sheepmeat (wholesale level)	306.68 ^{3/}	219.19 ^{4/}
Poultry (wholesale level)	80.80 ^{3/}	81.27 ^{10/}
Sunflower seeds	23.50 ^{1/}	34.14 ^{4/}
Sunflower meal (37-38% protein)	9.80 ^{11/}	16.60 ^{12/}
Refined sunflower oil	70.40 ^{13/}	49.18 ^{12/}

- 1/ Producer guaranteed price.
2/ Target price.
3/ Market price at wholesale level.
4/ Intervention price plus transport cost from major EC ports and unloading cost.
5/ Threshold price plus unloading cost.
6/ Fixed wholesale price for first quality wheat.
7/ Figures are expressed in kg liveweight at farm level.
8/ Figure is equal to intervention price plus transport cost from major EC ports and unloading cost minus social cost of slaughter.
9/ Figures are equal to intervention price plus transport cost from major EC ports and unloading cost minus social cost of slaughter and multiplied by conversion ratio.
10/ Sluiceway price plus levy.
11/ Wholesale price fixed by government decree.
12/ Market price plus transport cost from major EC ports and unloading cost.
13/ Average wholesale price under the declared price system.

Sources: Procalfer, Comparative Advantage and Policy Choices in Portuguese Agriculture, Vol. I, p. 109, Dec. 1982; and, Commission of the European Communities, The Agricultural Situation in the Community--1982 Report, 1983.

Footnotes

- 1/ Excerpt from MACP, Aides Nationales, Portugal-Adhesion/Agriculture, DOC-P-AN-4-82, November 1982.
- 2/ See, for example, Tham V. Truong, Measuring Agricultural Price Intervention Effects in Portugal During 1977-80, IED Staff Report No. AGES820630, ERS/USDA, July 1982.
- 3/ MACP, Ajudas Nacionais A Agricultura-Sua Compatibilidade Com O Direito Comunitario, Gabinete De Planeamento E De Integracao Europeia, May 1982; and, European Community Commission, "State Aids and the Common Agricultura¹ Policy," Green Europe, No. 191, March 1982.
- 4/ Procalfer, Comparative Advantage and Policy Choices in Portuguese Agriculture, Vol. I and II, December 1982.
- 5/ Following this report's definition of an agricultural subsidy, the agricultural aid on diesel fuel is not a subsidy and is therefore, excluded from this study. Furthermore, the agricultural aid on diesel fuel is, literally, a tax rebate.
- 6/ Procalfer, op. cit., Vol. I, p. 104.
- 7/ Procalfer, op. cit., Vol. I, p. 105.
- 8/ The exact nature of the producer, input and domestic subsidies are described in great details in Procalfer, op. cit., pp. 83-101 and 114-121.
- 9/ The same explanation is advanced in Truong, op. cit..
- 10/ See Table III in Appendix for the identification and quantification of consumer subsidies, M5, in the 19 commodity systems.
- 11/ Declared prices are maximum prices determined by the Direction Geral de Concorrencia e Precos (DGPC)/National Commission for Competition and Price Control.
- 12/ It is recalled that consumer subsidies, M5, are defined as direct transfer payments which take place at the distribution level.
- 13/ MACP, Adjudas Nacionais...; and, European Community Commission, op. cit..
- 14/ See Truong, op. cit., for more details on the effects of the Portuguese government price intervention system.
- 15/ Procalfer, op. cit., pp. 83-101.
- 16/ See Fox, R., T. Finan, T. Truong and E. Offutt, Prices and Subsidy Programs for the Feed Grain-Livestock Sector of Portugal, Procalfer-Phase I Report, December 1981, for the derivation of the estimate of 15 percent feed subsidy for all types of animal feed.