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**THE FRENCH DAIRY MARKET
IMPACT OF DAIRY QUOTAS AND CESSATION SCHEMES**

By

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ABSTRACT

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The "Green Europe" was created in 1967 in order to integrate the agricultural economy of the Member Countries.

For the dairy market, the Community implemented programs aimed at ensure good supply of dairy products, reasonable revenue to dairy producers, and occupation of some less favored areas.

The subsidizing and public storage program for dairy products (milk powder and butter) led to surplus production. The cost of such a policy became unacceptable for Community Members.

In 1984, the Minister of Agriculture Council decided to implement a quota program on milk production coupled with strong cessation schemes in order to reduce milk production and improve efficiency of dairy farms.

This program led to a 25% reduction in number of dairy farms, a 8% reduction in milk production and improved average productivity of dairy cows.

The cost of the dairy policy decreased 20%, including cost for supply and demand management of the dairy sector.

Public intervention on the dairy market became unnecessary and revenue of dairy producers improved. Social goals, placed at a high priority level have been fulfilled.

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TABLE OF CONTENTS

Index of Figures	viii
Index of Tables	x
INTRODUCTION	1
1. REVIEW OF THE DAIRY SECTOR IN FRANCE	8
1.1. A Stagnating Demand.	8
1.2. A Social Approach to the Dairy Market	11
1.3. Integration in the EEC	14
1.4. A Sector in Change.	17
1.5. The History of Dairy Quotas in the EEC.	25
2. REVIEW OF THE REGULATION FRAMEWORK OF THE DAIRY SECTOR IN FRANCE (1984-90)	30
2.1. Supply Management	30
2.1.1. Description of the Quota System.	30
2.1.1.1. How the system works	30
2.1.1.2. Evolution of quotas	35
2.1.1.3. Arrangements within the quota system.	40

2.1.2. Description of the Production Termination Program	45
2.1.2.1. The different regimes	45
2.1.2.2. Efficiency of Each Program	50
2.1.2.3. Use of freed quotas	55
2.2. Demand Management	58
2.2.1. Subsidies for Dairy Products Consumption.	59
2.2.1.1. Description of the Framework.	59
2.2.1.2. Evolution of Quantities of Subsidized Dairy Products.	60
2.2.2. Description of the Buy-Out and Storage Program.	62
2.2.2.1. How the system works	62
2.2.2.2. Impact on storage of butter and powdered milk.	65
2.2.2.3. Release of stocks.	67
3. DISCUSSION OF SOCIAL COST AND BENEFIT OF THE MARKET REGULATION POLICY.	71
3.1. Direct Cost of Supply and Demand Management	71
3.1.1. Direct Cost of Cessation schemes.	71
3.1.2. Cost of Demand Management	73
3.1.3. Analysis of Total Costs.	74
3.2. Analysis of Market Benefit	76
3.2.1. Effect on Butter Market.	79
3.2.2. Effect on Milk Powder Market	82

3.2.3. Effect on Milk Market Price.	84
3.2.4. Seasonal Movement in Milk Deliveries.	85
3.3. Analysis of Dairy Production Sector Structure Benefit.	87
3.3.1. Evolution of Age Structure.	87
3.3.2. Evolution of Size of Herd Structure.	89
3.3.3. Evolution of Profit of Dairy Operation.	93
3.3.4. Technical Progress of Dairy Operations.	99
3.4. Secondary Effects.	102
3.4.1. Quota a Barrier to Entry.	102
3.4.2. Subsidizing of Dairy Sector and Impact on Other Sectors.	105
3.4.3. Are Third Countries Taking Advantage of the System ?	106
 CONCLUSION	 109
 Bibliography	 115
 Glossary	 120
 APPENDIX A	 122
 APPENDIX B	 130

Index of Figures

Figure 1 : Evolution of Main Industrial Use of Milk in France 1983-89(in % of milk produced)	10
Figure 2 : Type of Quotas.	33
Figure 3 : What Can Happen to a Quota ?	37
Figure 4 : Detail of Dairy Quotas and Production in France 1984-89.	38
Figure 5 : Community Subsidies for Dairy Market Support in France 1985-90. (Detail of Subsidies Allocations)	59
Figure 6 : Trend in "FEOGA" Expenses for Dairy Sector Policy in France 1984-90 (Millions FF).	76
Figure 7 : Evolution of Target Price for Dairy Products in France 1985-91 (100=1985).	77
Figure 8 : Market Price and Target Price for Butter 1987-90 (FF/kg).	80
Figure 9 : Storage of Butter in France 1983-90 (Tons).	81
Figure 10 : Storage of Milk Powder in France 1983-90 (Tons).	82
Figure 11 : Market Price and Target Price for Milk Powder in France 1987-90 (FF/kg).	83
Figure 12 : Farmers Price and Target Price for Milk in France 1985-91 (FF/Liter).	85
Figure 13 : Seasonal Distribution of Milk Deliveries in France 1983-90 (%). . .	87
Figure 14 : Trend in Value of Input, Output and Income on Dairy Farms in France, 1983-88 (100=1983-84).	96

Figure 15 : Trend in Price Index for Animal Feeding, Energy, Investments and Machinery in France 1983-89 (100=1980).	97
Figure 16 : Ratio of Cows Slaughtered over Total Cows in France 1978-88.	98
Figure 17 : Evolution of Composition of Milk in France 1980-90 (g/l).	101
Figure 18 : Purchased Inputs in % of Total Output by Size of Herd in France 1983-87.	102
Figure 19: Evolution of the Cost of the Dairy Policy, Quotas and Dairy Production in France 1984-91 (100=1984-85)	113
Figure 20 : Supply and Demand of the Butter and Milk Powder Market with Consumption Subsidies	124
Figure 21 : Supply and Demand on the Milk Powder and Butter Market with Public Storage Program.	125
Figure 22 : Supply and Demand on the Milk Powder and Butter Market with Consumption Subsidies and Public Storage of Surplus.	126
Figure 23 : Supply and Demand on the Dairy Market with the Production Quota Program.	127
Figure 24 : Effect of the Cessation Schemes for the Dairy Industry on Supply Curve.	129

Index of Tables

Table 1 : Number of Farms With Cows, and Number of Cows in France 1979-89.	19
Table 2 : Distribution of Dairy Farms Related to Size of Herd in France 1979-89.	20
Table 3 : Evolution of the Structure of Dairy Farms Related Farmer's Age 1981-89.	21
Table 4 : Trend in Terms of % of Milk produced Delivered to Processing Plants in France 1980-89.	24
Table 5 : Trend in Expenses of "FEOGA" Funds 1980-91 in Europe (Million ECU).	29
Table 6 : National Guaranteed Milk Quantities for France 1984-1991 (Tons).	36
Table 7 : Detail of Dairy Quotas and Production (Tons).	42
Table 8 : Cessation Schemes in France 1984-89.	47
Table 9 : Quotas Released by Cessation Schemes in France 1984-89 (Tons). .	53
Table 10 : Origin of Quotas Directed to the National Reserve 1984-90 (Tons).	56
Table 11 : Quantities of Subsidized Milk Powder in France 1987-90 (Thousand Tons).	61
Table 12 : Stocks and Public Purchase of Butter and Milk Powder in France 1983-90 (Tons)	66
Table 13 : Use of Public Stocks of Butter and Milk Powder Released in France 1984-90 (Tons).	69

Table 14 : Trend in "FEOGA" Expenses for Dairy Sector Policy in France	
1984-90 (Million FF).	72
Table 15 : Community Subsidies for Dairy Market Support in France 1984-90	
(Millions ECU).	74
Table 16 : Trend in Self-Sufficiency for Selected Dairy Products and Meat in	
France 1980-88 (%).	78
Table 17 : Evolution of Farm Structures Related to Age of Farmers in France	
1981-89 (%).	88
Table 18 : Distribution of Farms Related to Size of Herd in France 1979-89	
(%).	90
Table 19 : Distribution of Dairy Cows Related to Size of Herd in France 1979-	
89 (% of farms).	91
Table 20 : Income and Milk Price of Dairy Farms in France 1983-88.	94
Table 21 : Income and Milk Price of Dairy Farms in France, by Size of Herd	
1986/87.	95
Table 22 : Trend in Market Price of Beef Meat in France 1980-90 (ECU/100	
kg).	98
Table 23 : Production Performance of Dairy Cows in France 1980-89 (kg of	
milk/cow).	100
Table 24 : Money Conversion for French Francs, US Dollars and European	
ECU.	131

Table 25 : Evolution of Number of Dairy Farms and Dairy Cows in France	
1984-90 (%).	131
Table 26 : Evolution of Farm Structure According to Age of Farmer in France	
1981-89 (Thousands)	132
Table 27 : Evolution of Composition of Milk in France 1980-90.	132
Table 28 : Evolution of Delivery of Milk in France 1983-90 (Million Liters) .	133
Table 29 : Evolution of Target Price of Dairy Products in France 1985-91 (FF	
and ECU).	134
Table 30 : Premium for Milk Powder Denaturation in France 1985-91	
(ECU/100 kg and 100=1985).	135
Table 31 : Storage of Butter in France 1983-90 (Tons)	136
Table 32 : Storage of Milk Powder in France 1983-90 (Tons).	137
Table 33 : Evolution of Use of Milk in France 1983-89 (%).	138
Table 34 : Ratio of Cows Slaughtered Over Total Cows in France 1978-88. . .	138
Table 35 : Monthly Slaughtering of Calves in France 1978-88 (Thousand	
Heads).	139
Table 36 : Monthly Slaughtering of Heifers in France 1978-88 (Thousand	
Heads).	140
Table 37 : Monthly Slaughtering of Cows in France 1978-88 (Thousand	
Heads).	141
Table 38 : Intermediate Consumption (in % of Total Output) of Dairy Farms	
by Size of Herd in France 1983-87.	141

Table 39 : Trends in Price Index for Animal Feeding, Energy, Investments and Machinery in France 1980-90 (100=1974).	142
Table 40 : Trend in Industrial Production of Animal Feeding in France 1984-89 (Thousand Tons).	142
Table 41 : Value of Input, Output and Income of Dairy Farms in France 1983-88.	143
Table 42 : Trend in Visible Human Consumption of the Main Dairy Products in France 1979-89 (kg/person).	143

INTRODUCTION

The "Green Europe" was created in 1967, with a view to integrating European Community Members agricultural economy (6 countries) (5.6).

The main purpose of the regulation policy implemented at that time was threefold :

- compensate for agricultural production performance variations in member states in order to allow product exchanges within the larger community,
- organize the agricultural products market within the community in order to guarantee consumer accessibility to quality products as well as acceptable revenue to producers,
- support structural changes in the production sector and the processing industry, to adapt to changing market conditions and fulfill societal goals.

With the extension of "Green Europe" to other countries, the heterogeneity of agriculture production sectors of Member States has been further evident, and the need for the Community's increased intervention more obvious. The Community decisions have gained in authority; consequently, the variety and power of Community measures enhanced (5.1).

Following changes in the market and production sector, various measures have been implemented in two main areas :

- market organization and,
- technical and social aspects of the production sector.

This paper focuses on the most significant measures implemented since 1967. Monetary Compensatory Amounts and Green ECU¹ aim to compensate for efficiency and competition differences resulting from variations in exchange rates. This measure sets compensation and monetary equivalents for all agricultural products exchanges within the community. Those two measures are progressively being abandoned with the advent of the open market January 1st 1993. Other measures involve market support through demand management programs. These programs, by and large, subsidize selected categories of processed products consumption, in order to enhance raw agricultural products consumption. If necessary, for selected commodities, the Community intervenes directly to buy excess product for storage, and returns the product to the market when it can support it.

All measures apply to several agricultural products such as cereals and milk.

¹ See Glossary for specific terms.

Other programs aimed at improving production systems were implemented at the same time through the allocation of premiums for use of improved means of production or through the granting of preferred credit rate for production improvement. The other set of measures involves direct support to producers for various purposes. Measures to reduce production were implemented in several sectors such as wine production, thereby allocating financial incentives through premiums for production termination.

Although these two sets of measures seem contradictory, both contribute to improving the efficiency of the production sector.

More over, for selected years, producers received financial compensation for climatic catastrophe or other event causing damage to their revenue source.

In the milk production sector, the Community implemented different forms of these programs; market support and direct support to farmers being used consistently in keeping with market evolution and political requisites from member countries.

Market intervention for dairy production consisted of withdrawing butter and milk-powder when market prices fell below target price.

Programs such as these which guaranteed prices for processed products regardless of quantity produced led to a situation where the financial cost of such policies was not acceptable at the Community level and where member countries refused to increase their contribution to the Community budget. It was also evident that such programs gave no incentive for increased efficiency within the production sector, particularly efficiency in terms of structural characteristics.

The organization of the Green Market is twofold. Politically important decisions to implement the dairy sector policy are made by the Agricultural Ministers' Councils at bi-annual meetings. The Community Commission is the administrative organ in charge of implementing policy, presenting the proposition to the Minister's Council and monitoring the policy. In France, the Government charged ONILAIT (National Inter-professional Board for the Dairy Sector) with the implementation of the dairy policy. This board is an administrative agency. Other agents involved in formulating and implementing the policy, such as, Farmers Unions play an important role. Processing industry representatives also play their part in implementing cessation programs.

The french production sector is characterized by small family farms, with older classes of farmers being over-represented. Dairy farms are often involved in other agricultural productions. The proportion of specialized farms is not as high as in other EEC countries like the United Kingdom. On a regional basis, the role of

dairy production is very diverse. Some regions like western France rely heavily on high productive dairy industry. Other regions such as the Alps or Center of France, depend heavily on dairy production because few alternatives are available for agriculture or other economic activities.

While demand management was implemented in the dairy sector, demand for dairy products was stagnated in France, and with increased production farmer's revenue decreased. Within the community it was felt that "Green Europe" had lost control of the market. In 1984, the Community decided to set dairy production quotas for every country to limit production. Forceful cessation schemes were implemented to quickly restructure the sector, and to improve production efficiency.

Partly because of the structure of the production sector, cessation schemes were very successful in France, especially in terms of quantity of quotas released and redistributed to existing or new producers. While management of quotas released through cessation schemes was given to processing plants, no open market was allowed for quotas in France. Through successive quota reduction for all producers, total production has now decreased. Cessation schemes and flexibility in implementing regulation frameworks, allowed both for an increase in average size of dairy herds and increased the proportion of younger producers.

My assessment of this policy will relate to the impact on the dairy product market and the structure and social environment of the production sector.

My first objective is to present the context and the environment that led to the implementation of this policy, while clearly identifying the main goals of the regulation and support framework implemented since 1984 in the dairy sector.

Secondly, I will present the main programs involved in the regulation, in terms of supply and demand. This part is intended to elaborate :

- the objectives of each program,
- their part in the whole framework,
- and their direct effect.

Finally, the paper aims to analyze the impact of the entire framework, and evaluate its effectiveness in achieving the goals assigned to the programs, not only in terms of the market, but of society as a whole.

What makes this regulation framework remarkable is the conjunction of supply management action with demand support, and strong measures to improve restructuring of the production sector. Other remarkable aspects of the policy are :

- management flexibility,

- involvement of the processing industry,
- participation of farmers' unions, and Government,

in its definition and its implementation.

Farmers' involvement in policy financing, and decrease in cost for the Community through supply management, is the last point I will cover.

In a wide European Market, the entire framework will further advance the integration of member countries' dairy economy.

This paper is not intended to be a conceptual in-depth analysis of the implementation of the quota program in France. It is intended to describe a policy that involves many aspects, to present the political context that led to these decision, and to point out the coherence of the framework with the individual situation of France.

This document is centered on the evolution that occurred in this sector due to quotas implementation and strong cessation schemes.

1. REVIEW OF THE DAIRY SECTOR IN FRANCE

1.1. A Stagnating Demand.

France is a major producer and exporter of dairy products. Its share of World production for the main dairy products (butter, milk powder, cheese) is significant (8% for butter, 5% for milk powder and 12% for cheese). Its milk production represents 8% of World production. For the main dairy products, 20 to 25% of its production is exported to the EEC or to the World market. Excluding exports to EEC Members Country, France's exports of dairy products represent 5 to 10% of international trade (5% for butter, 3% for milk powder and 10% for cheese).

France's role on the international dairy market is essential to its own dairy economy. Price fluctuation has a great impact on the dairy industry profit margins. Dairy farmers would suffer greatly were there no measures to protect them from world price deterioration.

Main dairy producing countries with developed economies also face the same problem of surplus production. The USA, which is the third World producer after the EEC and the U.S.S.R., had to implement several programs to limit production and to monitor demand in order to avoid for producers the disastrous effects of excess supply (1.2). New Zealand, also a significant producer, is losing access to the Community market, previously a natural client for dairy products through its Commonwealth adhesion. There may be an uncaptured demand in less developed

countries, but their income level is not sufficient to give them access to international market at current market price. It is expected that in coming years, demand from Eastern European countries will grow for a limited time.

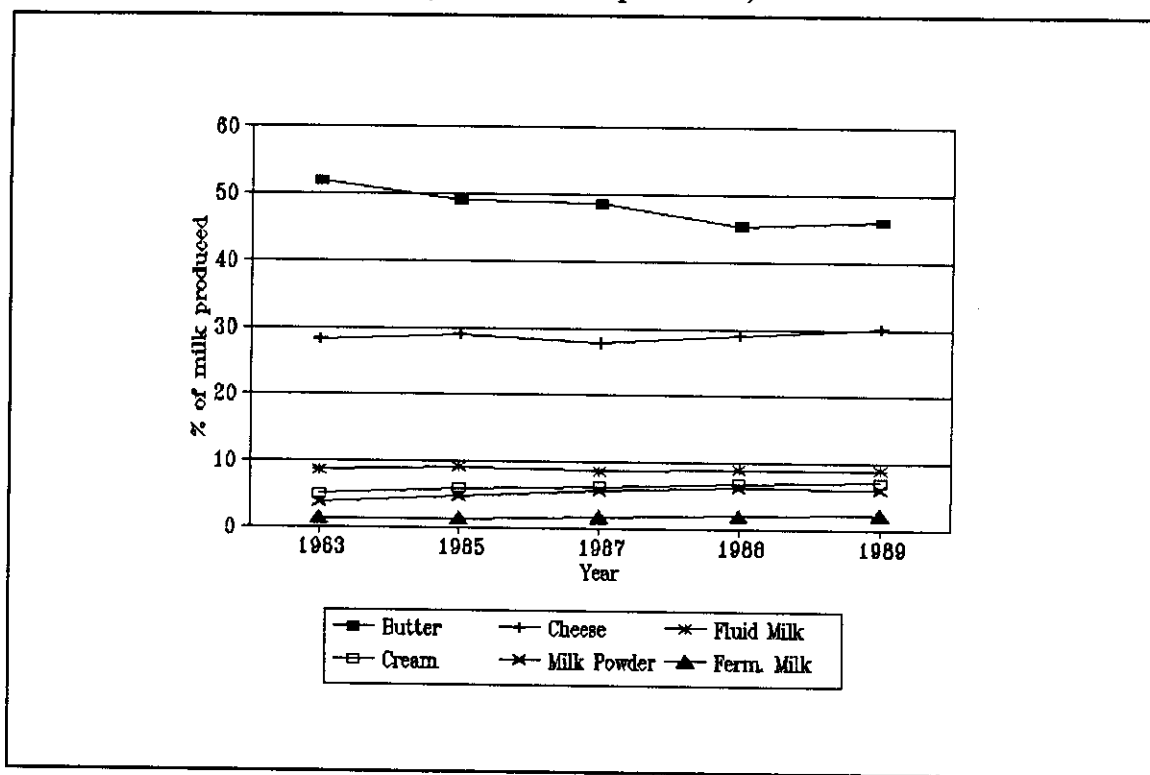
In this context, the market for traditional dairy products is not expected to grow at a pace to guarantee an outlet for the technical growth of dairy production in France, nor in Europe as a whole.

In France, human consumption of dairy products is primarily butter (50%), cheese (30%) and fluid milk (9%). Edible cream and milk powder count for less than 10%, with other products being marginal. Consequently, the consumption of butter is essential to the health of the dairy sector (Figure 1).

Compared to other countries, human consumption of butter is very high in France, almost four times the human consumption recorded in the United States. Since the late seventies, human consumption followed a downward trend reaching 15% within a ten year period. The proportional part of butter in the use of milk decreased at a similar pace, representing only 46% of total use of milk in 1989.

Compared to other developed countries, fluid milk consumption is low in France. French consumers drink less than 80 kg of milk a year. Consumption increased until 1984 but has since remained stable.

Figure 1 : Evolution of Main Industrial Use of Milk in France 1983-89
(in % of milk produced)



While France is atypical in consumption pattern of dairy products, cheese consumption is high and continues to grow rapidly. This trend is very encouraging as cheese is a high valued dairy product allowing for higher prices for milk at producer level. Fermented milk and edible cream consumption are also growing at a fast rate. (They are also expensive products). This trend is quite encouraging for the future of dairy products, as consumers seem to gravitate toward more expensive products. Nevertheless, the proportional weight of butter in the use of milk reduces the overall consumption of dairy products. Vegetable fat, which is recognized as being healthier, appeals more to the consumer than butter.

The processing sector is working intensively to develop new outlets for milk, both for human consumption and industrial use. The EEC and the French Government subsidize programs for food research. Since 1984, new food products have been introduced, some very successfully. But only radical change in milk usage could have extensive impact on its total consumption. New products could also be very successful on foreign markets. It should be noted that international exchanges of dairy processed products have increased dramatically since 1980, especially within the common market (2.8).

1.2. A Social Approach to the Dairy Market

After World War II, France was widely considered a major agricultural country. A major part of the population was established in agricultural area and a long tradition of regulation of the agricultural sector was favored by successive governments in order to :

- guarantee supply to the market,
- guarantee revenue to producers,
- avoid desertification of less favored rural regions,
- maintain a balance among production regions,
- supervise the terms of trade in the milk market so as to equalize bargaining power between agricultural producers and the processing industry.

As part of the agriculture industry, dairy production followed the same trend. The agriculture sector was politically powerful, having good representation in the Chamber of Representatives ; this situation holds true today. Recently, the French Minister of Agriculture, Louis Mermaz, unveiled a new agricultural support program following a huge street demonstration of farmers in Paris. He reaffirmed his government's intention to support farmers on a social basis, recognizing the need for subsidies to maintain a satisfactory level of occupation of land and ensure the well being of farmers. At the same time, he declared that the CAP (Community Agricultural Policy) needed to be revised in order to clarify the situation and to adapt to agriculture's current position in the economy.

The social aspect of agricultural issues , particularly equity remained a major factor in political decisions both in terms of production restructuring and market management.

Market support for dairy products dates back to 1967, and similar programs have been implemented for other commodities. Subsidies are regularly distributed to farmers to compensate for loss of production due to climatic catastrophes.

Preferred rate loans are given to farmers for investments purposes. To illustrate the power of the rural sector, it should be noted that 5 years ago, the farmer owned "Credit Agricole" (Agriculture Credit Union) ranked number one in the world for fund deposits.

While Trade Unions are declining in France, the Farmers' Unions remain powerful and are heavily involved in policy making in the agriculture sector. Five years ago, the former president of the strongest Farmers' Union was appointed Minister of Agriculture.

Within the EEC, France is the strongest negotiator for social support of producers, and its contribution to the Community budget is one of the highest.

Introduction of quotas in the EEC was felt by most producers as an immediate danger (2.13):

- fear that production decreases would result in decreased revenue,
- increased economical pressure on small producers,
- increased economical pressure on producers in less favored regions,
- limited alternative for size development,
- loss of land value,
- limited access to credit,

During negotiations at the EEC level, the French Government insisted that social aspects of the dairy economy, and particularly the situation of producers established in regions where dairy production play a specific role in the economy and territory occupation, be considered as a priority in measures regulating the dairy sector. This was to be achieved through flexibility in implementing the

measures and creating a special statute for producers in particular regions called "less favored areas".

The French Government and the Commission consider positively goals such as :

- occupation of mountain areas,
- landscape maintenance,
- conservation of access to unoccupied areas for touristic purpose through summer grazing,
- and conservation of genetic patrimony of limited cow breeds.

Flexibility in implementing the quota system was achieved by offering the choice for defining quota to individual producers and allowing transfer of "direct sales quotas" to "buyers quotas".

The implementation of cessation schemes was also very flexible, with every country being allowed to design its own framework, define its priority target and allowed to add funding to increase premiums to producers, or enhance the total amount spent on each cessation scheme.

1.3. Integration in the EEC

Since the beginning of the seventies, many sectors of the economy have found the process of integrating the Community economy to be long and rather painful.

Political orientation of member's countries and a wide disparity among participants contributed to the making of an administrative nightmare, a regulation jungle, emerging from never-ending negotiations.

In such a context, a regulation framework for the dairy sector could not be simple and satisfy every need of every country involved in the program. Guarantee market equilibrium, good prices to farmers level, to restructure dairy operations, ensure well-being of farmers, consumers satisfaction, good revenue from exports and harmonious regional development was not an easy task. So many interests are involved in the building of CAP that only specific circumstances could lead to a drastic structural reform of the production sector.

The common organization of agriculture was among the earliest fields of action for the Community following coal, iron and steel. It can be argued that CAP served as an experimental field for the EEC. The dairy sector remains one of the most important issue of the Community organization.

Disparities in dairy sectors of EEC members undoubtedly lead to different requests from those participating in these negotiations. Disparities such as weight of the dairy sector in agriculture, structure of dairy production sector, role of the

dairy sector in regional development, regional repartition, specialization and self-sufficiency, are among the most important issues assessed during negotiations, and must be taken into account while defining a policy involving regulations and a support framework.

France represents 25% of the EEC production. Its weight is significant in terms of decisions in the Ministers' Council. Given the extensive assistance provided by the French Government before 1984, restructuring the dairy sector was not as radical as it was in other EEC countries, like the United Kingdom and Holland.

A crucial decision had to be made for the implementation of a quota system. Should countries that have a competitive advantage, or some other kind of priority, be given advantage for dairy production, or should self-sufficiency be determinant as the criterium for the allocation of quotas at the country level? In fact, as in many cases for EEC decisions, the status-quo was maintained for quota distribution. It was decided that quota determination would be based on 1981 production levels. In other words, the Council was unable to reach an agreement based on technical or economical criterium. Some arrangements were made to favor Ireland for which dairy production plays a crucial role in poor rural areas and countries in production deficit, such as, Greece and Italy.

Economists of the European Commission could have based their system on regional milk distribution, defining production areas with competitive advantage able to supply defined market. This option would have demonstrated a strong political will to integrate regions into a wider market, where the synergies and particular conditions of some regions could generate more advantages for the entire Community.

It appears more and more that the level of economic integration and the nature of decisions that have to be taken require some kind of Community political power able to impose decisions in the interest of the Community. The Community reached a point where the Commission exerts a power for which it does not have any political mandate. And the collegial political power constituted by the Minister's Council is not able to reach agreement in the interest of the Community (5.1).

The dairy sector regulation framework suffers from this situation.

1.4. A Sector in Change.

In France, the dairy sector plays an important role in the agricultural industry. It plays an important role in less favored regions and represents an essential activity where natural conditions are favorable i.e. the western part of France.

Presently, 215,000 persons are involved in dairy production, while 73,000 persons are involved in dairy processing. The entire sector occupies 1.3% of the active population. The dairy processing sector accounts for 17.5% of the total food industry revenue. Dairy industry represents 2.1% of the total exports for France while compared to food product exports, dairy products count for 17.8%. In terms of international exchanges, dairy products yield a 16.2 Billion FF positive balance (subsidized and unsubsidized exports). This number is significantly higher than its equivalent for the entire EEC.

Table 1 : Number of Farms With Cows, and Number of Cows in France 1979-89.

Year	Farms with cows			Farms with Dairy Cows			Farms with suckling cows		
	1000 Farms	1000 Cows	Mean	1000 Farms	1000 Cows	Mean	1000 Farms	1000 Cows	Mean
1979	700	10,221	14.6	543	7,488	13.8	233	2,730	11.7
1983	587	10,100	17.2	439	7,166	16.3	235	2,934	12.5
1984	561	10,096	18.0	427	7,195	16.9	224	2,901	13.0
1985	538	9,909	18.4	367	6,764	18.4	228	3,145	13.8
1986	513	9,763	19.0	329	6,506	19.8	239	3,257	13.6
1987	481	9,555	19.9	320	6,359	19.9	235	3,196	13.6
1988	449	9,037	20.1	291	5,841	20.1	225	3,196	14.2
1989	425	8,715	20.5	268	5,574	20.8	222	3,141	14.1

Source : S.C.E.E.S.

- Note :
- Farms with at least 1 cow
 - Survey implemented in December of the preceding year
 - Most recent available results refer to 1/1/89
 - Suckling cows : beef cows,
 - Mean : Number of cows/number of farms.

In 1984, France counted 561,000 cattle farms. Out of this number, 427,000 farms had dairy cows and only 224,000 had suckling cows (beef cows). This proportion has remained stable since 1979 but the number of farms with cows decreased 20% during this period (Table 1).

During the same period, the number of cows remained almost stable. The dairy sector counted 7.5 millions cows in 1979, and 7.2 millions in 1984. The proportion

of dairy cows is similar to that of farms with dairy cows. This shows a gain in terms of size of farms during the period considered (Table 2).

Table 2 : Distribution of Dairy Farms Related to Size of Herd in France 1979-89.

Number of Dairy Cows per Farm	1979		1984		1987		1988		1989	
	Farms	Dairy Cows	Farms	Dairy Cows	Farms	Dairy Cows	Farms	Dairy Cows	Farms	Dairy Cows
1-2	69.5	105.4	49.2	73.8	30.0	44.5	29.2	42.7	24.9	36.1
3-4	60.7	213.0	34.5	122.1	18.8	66.1	16.3	57.1	13.5	46.6
5-9	116.0	793.1	74.2	509.8	46.0	324.5	37.8	265.6	32.6	228.3
10-19	171.1	2364.9	130.1	1821.4	88.6	1256.7	78.9	1120.7	73.0	1044.3
20-29	78.6	1902.4	71.1	1694.1	63.0	1515.3	61.2	1464.6	56.8	1359.0
30-39	27.9	972.6	33.0	1114.1	37.1	1258.0	35.1	1187.3	34.3	1155.2
40-49	11.5	564.7	19.2	833.6	19.6	854.0	18.5	806.3	18.0	782.6
50-99	7.2	538.2	15.6	965.2	15.9	973.4	13.8	831.7	13.9	844.0
100 +	0.1	34.0	0.5	60.9	0.6	66.3	0.6	64.8	0.7	77.5
Total	542.6	7488.3	427.4	7195.0	319.6	6358.8	291.4	5840.8	267.7	5573.6

Source : S.C.E.E.S.

The french dairy sector is representative of small sized farms. In 1979, dairy farms with 10-19 cows represented 31.5% of the total dairy farms. 76.8% of total farms had less than 20 cows. In 1984, this percentage was only 67.4. This analysis confirms the evolution presented in the preceding paragraph. Farms with less than 20 cows owned only 46.4% of all dairy cows. The same percentage fell to 35.1 in 1984. During the same period, farms with more than 100 cows increased dramatically, 110 in 1979, and 524 in 1984 (Table 2).

Table 3 : Evolution of the Structure of Dairy Farms Related Farmer's Age 1981-89.

Age of Farmer	Farms						Dairy Cows					
	1981		1985		1989		1981		1985		1989	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
< 35	43.8	9.1	42.4	11.5	33.3	12.4	911.2	12.6	1096.0	16.2	910.0	16.3
35-39	27.5	5.7	30.8	8.4	24.7	9.2	550.2	7.6	752.6	11.1	662.7	11.9
40-44	40.9	8.5	27.5	7.5	25.9	9.7	783.5	10.9	621.0	9.2	636.3	11.4
45-49	75.0	15.6	48.7	13.3	28.0	10.5	1284.4	17.8	1026.4	15.2	636.8	11.4
50-54	90.9	18.9	74.3	20.2	50.3	18.8	1409.1	19.6	1421.8	21.0	1031.6	18.5
55-56	100.0	20.7	75.4	20.5	58.8	22.0	1370.8	19.0	1160.4	17.2	1102.9	19.8
60-64	53.0	11.0	44.8	12.2	30.2	11.3	577.0	8.0	540.4	8.0	459.7	8.2
65-69	26.1	5.4	9.5	2.6	8.2	3.1	198.0	2.7	68.8	1.0	79.5	1.4
> 70	24.8	5.1	13.8	3.8	8.3	3.1	132.2	1.8	76.3	1.1	54.1	1.0
Total	482.0	100.0	367.2	100.0	267.7	100.0	7216.4	100.0	6763.7	100.0	5573.6	100.0

Source : S.C.E.E.S.

Note : - Survey performed December of preceding year
 - latest results available related to the situation 1/1/89

The french dairy sector is characterized by aging farmers (Table 3). Farmers over 55 represented 42.2% of the total number of farmers. In 1985, the same percentage fell to 39%. In 1981, farmers over 55 owned 31.5 of the dairy cows, while this percentage was only 27 in 1985. As shown in Table 3, the french dairy sector represents old small dairy producers. But the trend during years preceding the implementation of the dairy quotas was toward an increased size of farms, and reduced proportion of older farmers. The average number of cows increased during the same period from 13.8 to 16.9, but remained inferior to the average size of herd of the farms with cows. Later, this phenomenon was reversed.

Milk production was 25.347 million liters in 1983. France is ranked first among the milk producing countries in EEC. Only Germany comes close to this quantity. Other countries produce only half this quantity.

Peak production of milk is in May. The lowest production is in September through February. This seasonality is strongly marked and does not show so much evolution. Since dairy operations are largely traditional or mixed operations, grazing and food availability are essential for production. Seasonality is essential for the survival of dairy production (2.13). It could be argued that increase consumption of concentrated feed would favor a leveling of the seasonal production curve, however the Community is on the verge of implementing programs to extend grazing.

Production was 3,605 kg of milk per cow in 1980. This number was below the European average. In 1985, performance increased to 4,344 kg/cow, closer to the European average. This 20% increase in productivity might be explained through genetic improvement of dairy cows, nutrition and management of the herd. There are indicators of technical improvement in the dairy sector, particularly in cost saving technologies. As concentration progresses in the dairy sector the proportion of more technically advanced dairy operations is increasing.

At the same time, milk composition improved. Fat content increased slightly within a 3 year period, reaching a 39.66 g/liter value. During the same period, protein content decreased slightly. Trends observed during this period continued after implementation of the quota program. The improvement in term of technical performance is significant, in that, production improvement is genetically negatively correlated to fat content. Regarding protein content, it is expected to increase, since this factor is presently taken into account for milk price setting.

Value of intermediate consumption represented 55% of the total output in 1984 for dairy farms. This indicator was increasing as the size of the herd was also increasing. This shows correlation of size of herd with overall use of input in milk production.

The calculated income of dairy farmers is less than the minimum income in France. This is not surprising since these numbers can be verified for agriculture as a whole. Income per AWU (Agricultural Work Unit) is increasing as size of herd is increasing. This can be partly explained by the fact that very limited manpower is hired in this subsector of agriculture.

As size of herd is increasing, so is the percentage of dairying in output, showing more specialization in larger herds. Industrial production of animal feeding increased steadily in France during the period preceding implementation of dairy quotas.

Table 4 : Trend in Terms of % of Milk produced Delivered to Processing Plants in France 1980-89.

Year	1980	1982	1983	1984	1985	1986	1987	1988	1989
% of milk produced delivered to processing plants.	92.4	94.2	94.6	94.3	91.4	92.5	91.9	90.5	91.3
Index 100 in 1980	100.0	101.9	102.4	102.1	98.9	100.1	99.5	97.9	98.8
Index 100 in 1984	98.0	99.9	100.3	100.0	96.9	98.1	97.5	96.0	96.8

Source : Eurostat

The percentage of milk produced delivered to processing plant increased until the implementation of the dairy quota system. Since then, the trend has been inverted (Table 4).

1.5. The History of Dairy Quotas in the EEC.

First steps taken during the seventies called essentially for voluntary action from dairy farmers to limit production of milk : slaughter of dairy cows and conversion of dairy units into meat production.

At the same time, program to release subsidized dairy products on exterior and interior markets have been favored, while an aggressive exports policy was undertaken.

During 1977, a first step toward financial responsibility of dairy producers was taken, through implementation of a lump sum co-responsibility levy applicable to processing plants milk deliveries (4.16).

This co-responsibility levy generated resources financing research for new possible outlets for milk. The rate of the co-responsibility levy increased from 1.5% to 2% of the indicative milk price. This co-responsibility levy increased to 3% of the indicative price in 1984 and was used to progressively finance the cost of the supply and demand management framework.

It is to notice, that nor the incitation scheme, neither the co-responsibility levy had a significant effect on the surplus production of milk and dairy products.

At the opposite, the production continued to increase at a faster pace than consumption, the latter tended to stay at the same level during the same period. In 1968, an OECD study forecasted that production in 1974 would overcome consumption by 10 million tons. This study predicted a consumption level of 25 million tons, and production reaching 35 million tons (2.1). Such a difference between supply and demand being not realistic in a market economy, the study stated that the trend in growth of supply would lead to an absurd situation, in which market coordination is not properly working.

In order to overcome the economical and financial consequences of the continual diversion of the perspectives for production and consumption forecasts, the European Commission proposed at the end of 1979 to set-up a supplementary levy scheme on quantities of milk exceeding the reference quantities delivered to processing plants.

The proposal was not approved by the Minister of Agriculture Council.

Interesting enough, this proposal seems to be the premise of the contingency system established in 1984.

In three orientation papers on agricultural production prospective published by the Commission in 1980, the analyses point out the following ideas : it is not

economically reasonable and financially possible to grand producers with total price guarantee for unlimited quantities which production is structurally in surplus.

It was proposed that future decision concerning the common agricultural policy had to include a guaranties adjustment related to annual production objectives.

Before 1980, the Commission was in favor of a careful policy on price policy. The co-responsibility levy was continued and a supplementary levy to cover the cost of milk release added.

Furthermore, the Commission specified that shouldn't these measures be accepted, producers should have to take a more important part of the risk, by enduring less attractive intervention prices.

For 1982, the European Ministry Council imposed a guaranteed threshold for milk, on the basis of milk delivered to processing plants in 1981 plus 0.5%. In fact, milk deliveries for 1982 overrun the threshold by 3%. For 1983 the European Council set the guaranteed threshold at the 1981 delivery level plus 1%.

During 1983 it became obvious that these measures were not sufficient for an accurate production control; milk deliveries were 6% above the guaranteed

threshold. In June 1983, in Stuttgart (Germany), the European Council requested a new proposal to adapt the dairy sector to the new market condition.

In July 1983, the Commission admitted that in order to compensate for the additional expenses caused by disrespect of the guaranteed threshold, milk price had to decrease 12% in 1984-85. If so, the immediate impact on the producers revenues would be dramatic and the required adjustment period too long.

The Commission concluded that the principles of the guaranteed threshold had to be retained by adopting a quota scheme coupled with a restrictive price policy.

The early propositions stated that reference quantities, or quotas, corresponding to the idea of the guaranteed threshold, had to be based on 1981 deliveries to each processing plant. All quantities above the quota would be submitted to a supplementary levy calculated to cover the total cost of release of excess milk.

Through these measures, the pursuit of the supply-demand equilibrium became secondary, while the conservation of revenues and prices were the primary objectives (5.6).

Table 5 : Trend in Expenses of "FEOGA" Funds 1980-91 in Europe (Million ECU).

Year	1980	1985	1986	1987	1988	1989	1990	1991
Net Cost CAP	9,892.7	18,284.7	20,623.9	20,777.3	25,934.5	24,560.9	27,205.0	30,875.3
% of GNP	0.49	0.61	0.59	0.56	0.64	0.56	0.58	0.61

Source : EC Commission.

Recognizing that previous measures aimed at the regulation of supply were ineffective, and that expenditure of the "FEOGA fund" (Agricultural Guidance and Guaranty Fund) for price support in the dairy market became unaffordable, it was necessary to take economical decisions that would allow for effective control of dairy production.

The Ministry Council decided March 31st 1984 to establish a quota scheme for milk deliveries for 1985.

2. REVIEW OF THE REGULATION FRAMEWORK OF THE DAIRY SECTOR IN FRANCE (1984-90)

2.1. Supply Management

2.1.1. Description of the Quota System.

2.1.1.1. How the system works

In 1984, the European Community drew up the general rules governing the implementation of the superlevy system, within which the Member States were free to implement the policy at their own discretion. These general rules on implementation were designed to allow further structural developments and a normal income evolution in the dairy sector (4.16). The Council of Agricultural Ministers decided to allocate a reference quantity of milk to individual Member States for 5 succeeding periods of 12 months, from April 4th 1984, to March 31st 1989. At the same time the quotas were introduced, the target price was frozen (ECU value), the intervention price slightly reduced, and the co-responsibility levy raised to 3%. Each member state was allocated a buyers quota (deliveries to dairies) and a direct sale quota, and free to choose the formula of implementation of national reference quantities at the individual producer level :

- formula A: distribution of national "buyers quota" to individual producers; a levy of 75% of the target price is taxed on the excess production of the

individual farmer. Starting from the fifth quota year, this levy is raised to 100%.

- formula B: distribution of national quota to individual dairies; a levy of 100% of the target price is taxed on the excess production of the processing plant.

- the reference year and applied deduction percentage.

France chose formula B.

The quota were fixed by reference to 1981 deliveries plus 1%. During the transition year 1984-85, the norm applied was 1981 plus 2%.

A national reserve was created from an additional deduction percentage, or by means of a buy-out premium. The released quantities may be re-allocated as additional quotas to applicants who meet one of the following requirements :

- farms with a development plan or heavy investment;
- young producers undertaking farming after 12/31/1982;
- farms on which exceptional circumstances influenced milk production in the reference year.

Reference quantities may under no circumstances be used for other purposes than re-allocation to certain categories of producers. From the first quota year on, farmers were allowed to have an annual increase in milk fat content of 0.6 gram/liter (for B quotas). Any increase above these, carried a penalty factor of 1.0026, to be multiplied with the levy relevant quantity, per 0.1 gram/liter increase. In October 1986, the permitted increase in fat content without penalization was restricted to 0.1 gram/liter. In the first period of the milk year 1986-87, the former arrangement was applied (weighted average of the milk deliveries from April 1986 to September 1986). In the second period, the latter one was in effect (weighted average of the milk deliveries from October 1986 to April 1987). Afterwards, the multiplication factor was lowered to 1.0021, and later to 1.0018 per increase of 0.1 gram/liter.

Producers are divided in two groups according to the commercialization of their production. The largest group is made up of producers delivering milk to processing plants (Buyers Quota), (around 95.5% in 1984).

The other group is made up of producers selling directly their production as fluid milk, or as processed dairy products (Direct Sales Producers). Due to the importance of the dairy farmers delivering their production to processing plants, I will discuss only the case of buyers quota. During the implementation period of

Figure 2 : Type of Quotas.

	Mountain Region	General Regime
Producers selling production to Processing Plants (Buyers Quotas)		
Direct Sales		

quotas, France has been allowed to transfer direct sales quotas to buyers quotas.

We can't just ignore these quotas.

Producers from mountain regions or less favored regions benefit from a special status in the quota system. Some quotas reduction do not apply to them or apply to a lesser extent. Since the share of these quotas only represents 10% of the total reference quantities, I will not make a distinction in my analysis between these two classes of producers.

At request of France in 1985, it was permitted to exchange "buyers quotas" and "direct sales quotas", if it could be pointed out clearly that deliveries were increasing and quantities for direct sales were declining. The aggregate quotas had to remain at the same level.

At the end of the first quota year, above-quota production could be offset with under-quota production on dairy level (B formula); the rule to be applied was: distribution of unused reference quantities to individual over-producers, in proportion to the above-quota production quantity.

In some countries, producers were allowed to trade quotas and even lease them. France decided to prohibit this kind of business in order to avoid capitalization of quotas. The flexibility provided by the plan B for calculation of quotas within a processing plant coupled with very effective cessation schemes, provided the opportunity for restructuring and production increase for some dairy producers.

In 1987, was a new disposition taken in France. Every farmer over his quota level will pay the superlevy regardless of the situation of his processing plant. This decision was taken when agricultural unions realized that the plan B introduced a distortion for the superlevy amount among producers. If a processing plant does not reach its aggregated quota, its producers are not required to pay a penalty. In the opposite case, farmers producing more than their quota could pay a very high

penalty (the maximum amount would be 100% of the target price for quantities delivered to the processing plant exceeding the individual quota of the farmer). The process chosen to compensate for this bias is explained in Chapter 2.1.1.3..

In 1985-86, the co-responsibility levy was reduced to 2.5% of the target price.

2.1.1.2. Evolution of quotas

As said in previous chapters, the quota system is intended to respond to the condition of the market. Thus, its evolution is carefully related to the evolution of demand, but more significantly to the dairy production sector reaction.

The other constraint weighing over the quotas framework is the social pressure of producers and new measures acceptability.

Some quota measures have been alleviated by compensating actions, such as, the transfer of direct sales quota to buyers quotas.

Between 1984-85 and 1985-86, pressure on producers was limited. The 1% reduction imposed by the Commission has been almost completely compensated by a transfer of some direct sales quotas:

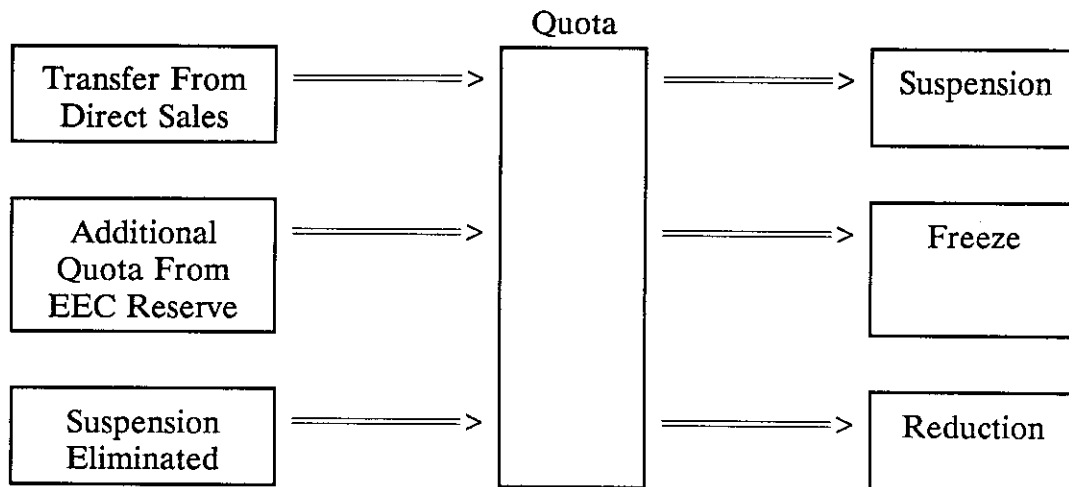
Table 6 : National Guaranteed Milk Quantities for France 1984-1991 (Tons).

Campaign	Buyers Quotas		Buyers quotas after suspension		Situation of quotas compared to 83
	National Quota	Explanation of variation between campaigns	National Quota	Explanation of variation between campaigns	
1984-1985	25,585,000	///	///	///	- 2%
1985-1986	25,494,000	Quota 84/85 - 1% (260,000) + transfer from Direct Sale (169,000)	///	///	- 2.35%
1986-1987	25,634,000	Quota 85/86 Transfer from Direct Sales (140,000)	///	///	- 1.8%
1987-1988	25,221,320	Quota 86-87 - 2% (512,000) Transfer from Direct Sales (100,000)	24,195,960	- 4% of the quota for 86/87 (1,025,360)	- 7.3%
1988-1989	24,964,980	- 1% of 86-87 quota (256,340)	23,555,110	- 1.5% of the quota for 86/87 (384,510)	- 9.8%
1989-1990	24,708,640	- 1% of 86-87 quota (256,340)	23,811,110	+ 1% of the quota for 86/87 (256,340)	- 8.8%
1990-1991	24,708,640	///	///	///	- 8.8%
1991-1992	24,195,960	Quotas 90-91 - 2%	23,298,770	- 1% of the quota for 86/87 (256,340)	- 10.75%

Source : ONILAIT

The actual quota reduction compared to the previous year was only 0.35%. It must be remembered that, reduction of production in 1984-85 compared to 1983-84 was 2%. Nevertheless, the production sector has generated an excess production of about 180,000 tons, corresponding to a penalty of 350 Millions Francs.

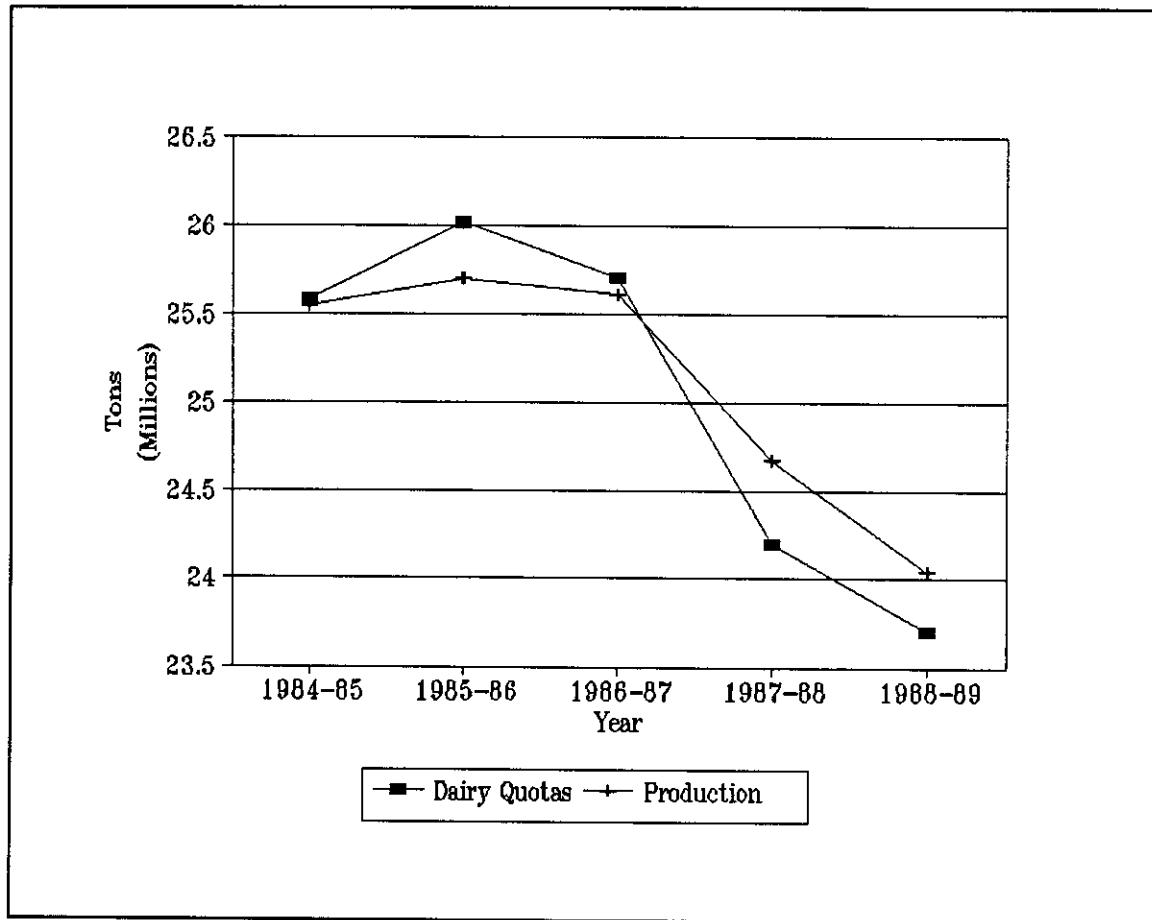
Figure 3 : What Can Happen to a Quota ?



Decision in 1986-87 was taken, to continue the same amount of reference than the previous year. Again, a transfer of some direct sales quotas to buyers quotas were permitted to quicken restructuring of the sector; in real terms, quotas have increased since the previous year.

In 1987-88, the quotas drop has been more harmful. Added to a 2% decrease of quotas, the Commission asked for a suspension of 4% of quotas for an undetermined period. This led to a substantial 2% over-production. Even if these 4% suspension of quotas were compensated by a successful cessation scheme, it was obvious that the goal was difficult to reach. Penalties paid by producers amounted 700 Millions francs for this campaign. (See Table 7).

Figure 4 : Detail of Dairy Quotas and Production in France 1984-89.



The following campaign called for a reduction of 1% of the quota plus a 1.5% suspension. This percentage was calculated on 1986-87 references. The over-production was compensated by mutualization and temporary transfers of direct sales quotas. No penalty has been paid for this campaign.

For 1989-1990, the temporary suspension has been reduced by 1% of the references of 1986-87. Despite the slight increase in the theoretical reference of 1989-90, the production has overcome the quota limitation. For this campaign,

french producers did not pay a penalty because of compensations for previous distortion of the system (drought, freeze, and extension of the mountain area).

For the 1990-91 campaign, the reference hasn't changed. But since storage of powdered milk started again in 1990, it is likely that producers will experience a decrease of quotas.

According to many newspapers published at the beginning of the quota implementation period, farmers do not believe that quota would be applicable to the dairy sector. Even when decision was taken by the Minister of Agriculture Council, most of them argued that the Government would step back and the superlevy never be paid. Fortunately, in 1985 France conformed to its quota and french farmers did not have to pay a superlevy. But they noticed that in other countries like Germany, farmers actually paid the superlevy. Dairy producers were looking for strategies to avoid over-production during the last month preceding the end of the milking year (March) (3.6). Especially in March 1985, a slight decrease is noticeable on the milk delivery curve compared to preceding years.

It might look surprising that no long term plan for quota reduction was decided since the beginning. Dairy quotas are not reduced evenly each year to reach 1989 desired production level. A 6% reduction was imposed in 1987, and no reduction imposed in 1988. Many farmers complained about this uncertainty that did not

allow to adjust production in a proper and economical manner. This matter of fact is inherited from the organization of the Community. Only the Ministers Council can decide the level of quotas. Since agreements are difficult to reach, the decision for quotas reduction is sometimes delayed and published after the campaign has actually started. Producers sometimes prefer to call for temporary measures to reduce production, early drying up of certain cows of the herd, give milk to calves, and reduce intake of cow feed. Obviously, a long term quota reduction plan would have prompted farmers to chose more radical and efficient techniques to cut production.

2.1.1.3. Arrangements within the quota system.

The agricultural policy is reviewed every six months by the Minister's Council. Being aware of bias introduced by the regulation framework and evolution of market conditions, decisions are taken to lessen pressure on dairy producers.

In France, transfer of direct sales quota to dairies were permitted to alleviate pressure on dairy producers.

The mechanism for quotas distribution was made more flexible in the interest of young entrants and to match the production targets of priority producers as much as possible. The role of the national reserve was strengthened despite the

unanimous wish of the three main producers and manufacturers organizations to keep it at its present level. The national reserve received 20% of the quota freed by the cessation schemes.

The 1985-86 year ended with a net excess of 0.7% above the reference quantity and involved a global penalty of 362 Million FF. For the first time, producers felt the financial effects of the quota system. After long discussions, during which regional interests were inevitably in conflict (85% of over-quota production came from the far west where over-quota production was 3% of total quota), national offsetting came into play, using a complex system of temporary reallocation of unused quotas:

- the larger part, 38%, was made available to priority producers, but with an upper limit of 5,000 kg.
- large volume, 25% of the total, were directed to a milk fund which was used to increase the quota of farmers who had delivered milk to regions affected by the 1985 drought,
- loans of quota also were used to absolve for any superlevy producers in mountain regions or in zone that suffered disaster in 1983.
- the remainder of the available quantity (10% of the total) was used to reduce individual penalties: these fell to somewhere between 0 and 0.60 FF/liter whereas, had the rules been strictly applied, they could have been almost 1.8 FF/liter.

Table 7 : Detail of Dairy Quotas and Production (Tons).

	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90
Reference Year N-1	24,778,906	25,621,562	25,493,795	25,633,900	24,095,804	23,422,557
Positive Adjustments	1,063,299					291,405
Negative Adjustments		(146,206)		(512,213)		(31,860)
Dead Quotas		(21,788)	(27,562)			20,972
Base for suspension or reduction	25,842,205	25,453,568	25,466,233	25,121,686	24,833,808	23,803,590
Suspension				(1,004,867)	(1,408,077)	
Reduction	(206,738)	(228,010)				
Reference Year N	25,635,467	25,225,558	25,466,233	24,116,819	23,526,247	23,803,590
Allowance from National reserve	58,561	159,891			14,649	
Allowance from special commission		194,982	81,133	10,010	31,673	5,640
Transfers from direct sale		29,137	74,804	192,519	156,970	168,005
Allowance from land exchange				3,716	21,959	30,465
Special Compensation		316,962	91,676	7,939	9,203	110,637
Transfers to direct sale		(1,584)	(1,736)	(2,181)		
Deduction from outgoers	(70,766)		(19,556)	(30,459)	(29,812)	(93,411)
Deduction from land exchanges				(6,137)	(29,033)	(30,465)
Special deductions						
Reference after adjustments	25,584,999	26,016,181	25,703,040	24,191,873	23,701,856	
Production	25,543,947	25,699,219	25,610,024	24,670,200	24,043,384	
Compensation for fat content			61,046			12,528
Production adjusted for fat content		25,699,219	25,671,070	24,670,200	24,043,384	
Above quotas	139,676	177,581		335,500		
Below quotas	(219,012)	(314,584)	(31,970)			
Penalty paid (1000 Francs)		351,308		700,000		

Source : ONILAIT

This complex measure made it possible to avoid producers paying high superlevies. Nevertheless, it attracted much criticism because of the significant variation in the level of penalties, also because the available quota turned out to be insufficient to meet the needs of many priority producers. All these distortions, which varied from region to region, were obviously linked to the low level of the national reserve, which the industry organizations were careful to hold down. Some people began to ask questions about the credibility in the longer term of regulations which were subject to such distortions.

At the end of the 1986-87 campaign, France recorded a net excess of 0.2% of the quota at the beginning of the year. This excess production was offset via the transfer of "direct sales quotas" to dairies (Table 7).

These quota quantities were redistributed in mountain regions where farmers have been harmed by natural calamities and for helping new entrants. To the reduction in guaranteed quantities was added a stricter regime of penalties : provisional payment during the year for producers over their quota; the Agricultural Minister's Council also authorized France to levy a tax on all individual excess production in excess of 20,000 liters whatever the situation of the dairy to which the producers delivers might be. Thus the original dairy-based formula was progressively modified by linking to the management of dairy-based quota the penalization of excess production at the producer level.

The Community decisions of 1986 maintained the principal of national offsetting but they incorporated a modification inspired by the Danish model. During the course of the year, dairies would be able to make provisional allocations to certain type of producers. These quota loans being judged on the basis of within-dairy under-production. This operation was to be finalized at the end of the year by an off-setting of under-production of all dairies. Producer's quotas, both final and provisional, could thus be adjusted as closely as possible to the national quota. This system could be called the floating quota. All producers who exceeded this quota would be penalized whatever the national situation might be at the end of the year and regardless of the situation of their own dairy with respect to its quota, and the penalty would be equal to target price.

Thus, there has been considerable development in the quota management system. Quotas are still managed at dairy level with flexibility allowed by the national reallocation of under-quota production, but the differences between rates of penalty applied to over-quota deliveries have disappeared. At the same time, over-quota deliveries must now be penalized at a rate that removes all possibilities of positive marginal revenue. At the end of 1987-88 France was over-quota, which implied the application of new penalties spread over more than a third of all producers. This led the Government to make further modification to the superlevy arrangement. These modifications led to preferential treatment regarding the sharing out of quota loans to priority producer with development

plans, recent new entrants and those with restructuring plans, as well as to small specialist producers with less than 60,000 liters. This subtle mix of formula A and formula B has without doubt strengthen the efficiency of the system and silenced some of the criticism that has been expressed.

In 1989, the Council of Agricultural Ministers decided to place 600 000 tons of the Community reserve at the disposal of farmers, who previously had been applying the SLOM regulation (cessation schemes implemented before the quota system) (2.15). The SLOM arrangements were introduced in 1977 to reduce milk production, and premiums were provided to farmers ceasing commercialization of dairy products during a period of at least 5 years. At the time of introduction of the milk quota system, applicants to the SLOM regulation did not receive a quota, because of unexisting milk production. The reallocation of milk quotas to previous SLOM applicants is restricted by strong rules. Only 60% of the quantities involved in the SLOM-regulation will be reallocated; and these quotas cannot be transferred afterwards except via inheritance.

2.1.2. Description of the Production Termination Program

2.1.2.1. The different regimes

Cessation schemes have been implemented under the quota system since 1984. Almost every year new cessation schemes have been carried out in relation with the quota reduction targets. These programs did not take into account the fact that some quota reductions were said to be temporary while others were said to be permanent. The assumptions were that temporary production reduction could be used as a way to quicken the restructuring of the dairy sector. In general, the policy followed for implementation of cessation schemes was close to needs, since temporary quota suspensions have been continued from year to years, and even increased for individual years.

Studies carried out by the ONILAIT previous to the implementation of quotas tried to evaluate the number of producers near retirement willing to stop production (2.2). Even if the analysis looks artificial, one study reached the conclusion that adequate reduction of production could be achieved through retirement of producers. The annual decrease of 6% in the number of producers that was targeted would correspond to the suppression of a class of age of 3 to 5 years every year. This analysis pointed out that in the long term cessation scheme could not rely only on producers willing to retire. But it was clear that programs targeted at aged producers would have a positive impact on the structure of the production sector, considering that old producers were less efficient and smaller.

Table 8 : Cessation Schemes in France 1984-89.

CAMPAIGN/REGIME	Type of premium	Conditions to enter the Program	Level of premium	Base for the premium
84/85 "Rocard's premium"	Single premium	- Farmer age 65 - receiving retirement benefit - age 55-65 doesn't apply for annual premium	- 61 cts/l - maximum 30 000 l	Deliveries of 1983 or the best year in case of calamity
	Yearly premium	- Age 55-65	- 61 cts/l up to 45,000 l - 30.5 cts/l up to 60,000 l	idem
	Single premium for conversion	- Age 55 or more - No retirement benefit	- 61 cts/l up to 60,000 l - 30.5 cts/l up to 90,000 l	idem
85/86 "Nallet's Premium"	Single premium	- Have a reference	- 1 F/l up to 20,000 l - 60 cts/l up to 30,000 l - 40 cts/l up to 60,000 l	Deliveries 4/1/84 to 3/31/85
86/87 "EEC Premium"	7 instalment premium	- Deliver until 3/31/87	Every year : - 22 cts/l up to 60,000 l - 17 cts/l up to 100,000 l	Reference of 1986/87
86/87 "Guillaume's I Premium"	Single premium	- Deliver until 4/1/86	- 1 F/l up to 20,000 l - 80 cts/l up to 30,000 l - 60 cts/l up to 60,000 l - 40 cts/l up to 100,000 l	Deliveries 85/86 up to reference quantity
87/88 "Guillaume's II Premium"	7 equal installments	Farmers : - Age 52 or more - No retirement benefit - Age less than 63 - deliveries until 4/21/86	Per year : - 40 cts/l up to 30,000 l - 30 cts/l up to 60,000 l - 20 cts/l up to 100,000 l - 10 cts/l up to 150,000 l First instalment, + 20% if production stops before 7/15/87, + 10% if production stops before 12/15/87	Reference quantity for 87/88
	7 decreasing installments	idem	years/ cts/l 1 2 3-7 0-30,000 l 80 50 25 30-60,000 l 60 40 20 60-100,000 l 40 25 13 100-150,000 l 20 13 7	Reference quantity for 87/88
88/89 "Guillaume's III" Premium	7 equal installments	idem		
	7 decreasing installments	idem	years/ cts/l 1 2-7 0-30,000 l 50 25 30-60,000 l 40 20 60-100,000 l 25 13 100-150,000 l 13 7	

Source : C.N.A.S.E.A.

It was agreed that cessation scheme would discriminate classes of producers,

according to age of farmers and the size of the operation.

The early cessation schemes were not targeted specifically to aged producers. But special conditions were applied to producers aged over 65 with retirement benefit or producers between 65 and 55 without retirement benefit.

The main differences between each program were based on the premium awarded to each producer according to the amount of the production. These premiums were paid in one time. Until 1986, cessation schemes were based on single premiums.

Starting from 1986-87, new cessation schemes were introduced to reflect the framework of cessation schemes recommended by the Commission. These schemes would offer a premium paid in 7 installments; most of the time the choice between equal or decreasing annuities was left to the beneficiary discretion.

These schemes were clearly targeted at encouraging producers to engage in a reconversion of their production. This kind of solution is in fact attractive for producers that were not specialized in the dairy sector. These premiums were very well suited to compensate for the loss of profit on dairy production during transition to the alternative production. This is particularly true when producers

switch to meat production. This conversion does not require extensive specialized investment. Revenue from the new production activity grows progressively after the first year.

In 1987, new cessation schemes were introduced especially targeted to producers aged 52-63.

The upper boundary of the production level for indemnity payment has increased during the years as new schemes were introduced. Starting at 60,000 liters it reached 150,000 in 1987 and 1988. This is really surprising, because the objective of the Government was to stop the progression of the number of farm producing more than 200,000 liters a year. This scheme permitted farmers close to this limit to go out of the production sector. Government intention to keep a kind of equilibrium among production regions could probably explain this rule. The average size of dairy farms is variable depending on regions. In certain regions, when the reserve of "near to retirement" producers were exhausted, cessation scheme were less successful because of this boundary.

The implementation of cessation schemes showed the flexibility of the program. In 1987, after production exceeded quotas, a cessation scheme was introduced with a premium surcharge if the cessation had an immediate effect in the beginning of the campaign, when production is at its highest level.

Concurrently, the Community implemented a program called "suckling cow premium" in order to temporary withdraw milk production from delivery by having the calf consuming cow production. This program is gaining attention during the few past years, since it fulfills two objectives favored by the Community: remove milk production from the market and extensification of production through grazing and wider occupation of agricultural space.

2.1.2.2. Efficiency of Each Program

Efficiency of each cessation scheme is difficult to assess. Efficiency for such action refers to benefits for many different agents in the dairy sector :

For the Government, efficiency can be expressed through :

- the cost for having a ton of dairy quota withdrawn from the industry,
- the effect of the cessation scheme on the structure of the sector,
- regional stabilization of production,
- market security,
- seasonal distribution of dairy production.

For producers remaining in the dairy production industry, efficiency can be expressed through :

- better access to additional quota to increase individual production,

- improved equality of bargaining between producers and processors,
- improved access to land,
- increased revenue,

For dairy producers enrolled in the cessation schemes, efficiency can be expressed through :

- increased revenue,
- value of their assets, including land.

The effectiveness of every cessation scheme to attract producers is relying on many factors, depending on the status of each individual producer. The strategy of producers is very variable and depends probably on the age of the farmer, the size of its operation, the region, the proportion of its revenue coming from dairy production, alternatives for restructuring in the region, the debt on its operation, and many other factors (4.1).

The opportunity cost for every individual farmer varies according to the factors presented above.

No precise study is available on the logic of producers who decide to enroll in the program.

For producers who are near retirement, revenue gained from cessation scheme is among the most important factor for its opportunity cost, while the value of the farm, if leased or sold is the other important factor. The value of a dairy operation, especially if it is specialized, or it is in a region where few alternatives for agriculture are available, will be damaged by the loss of the dairy quota.

For farmers in their fifties, factors other than direct revenue from cessation schemes are gaining weight in the question of opportunity cost. The opportunity cost of the quota is increasing as flexibility of conversion of the farm into another agricultural activity is decreasing. The amount paid for the buy-out of quotas to producers must reflect the financial cost for starting a more profitable activity on the same farm.

For producers who are far from retirement, cases are widely variable and so is the opportunity cost.

It is surprising that cessation scheme have not been more discriminating. As the opportunity cost for a quota is very variable depending on the situation of each producer, more discriminating programs would have been less costly for some class of producers, and would have given access to cessation schemes to producers who would not participate under the current conditions.

Table 9 : Quotas Released by Cessation Schemes in France 1984-89 (Tons).

	84-85	85-86	86-87	87-88	88-89	TOTAL
ROCARD	707,667	731,063				1,438,730
NALLET		163,423	144,918			308,341
GUILLAUME I			107,890	158,083		265,973
EEC				453,497		453,497
GUILLAUME II				164,538	301,993	466,531
REGIONAL PROGRAMS					36,718	36,718
TOTAL	707,667	894,486	252,808	776,118	338,711	2,969,790

Source : ONILAIT

The ONILAIT was surprised to find that one third of producers who ceased dairy production during the period did not ask to participate in a program.

As we can see in Table 9, milk production released by each program has been widely variable.

The first program implemented under the quota regime was really successful with an immediate effect on quota release.

The next program, called Nallet (named after the Minister of Agriculture), was less successful. Only 308,341 tons were released through this program.

The third program ("Guillaume I"), implemented in 1986-87, had almost the same result as the previous one. It should be noted that the impact on the production during the year it was implemented was only 40% of the total amount released by the program.

Next, an EEC program was implemented to compensate for a 4% suspension of quotas imposed by the EEC. This program reached its goal.

The "Guillaume II" program implemented during the same year as the EEC program, was also very effective. Only 35% of the quantity was released during the implementation year of the program, even though a financial incentive was given to producers who stopped production immediately. This can be explained by the fact that there was an overlap with the EEC program.

The regional program in 1988-89 was implemented to compensate producers who did not have access to the other program. The quantities released are not significant.

Overall quantities released since 1984 are 2,969,790 Tons. This represents approximately 12% of the guaranteed references of 1984. It does not mean that reference quantities decreased 12%. Most part of these quantities were re-

allocated for restructuring of the sector; only a part of it has been applied to reduction of aggregate quota.

2.1.2.3. Use of freed quotas

As stated previously, cessation schemes have been implemented to allow for a restructuring of the production sector and to achieve an increase of the average size of farms.

As an alternative policy, the Community could have achieved production reduction through cessation schemes alone. If so, the implementation of such a policy, would have been much more costly. Cessation schemes would have had to be more attractive for more producers. At the same time, the effect on other agricultural sectors would have been more important.

The processing industry and local powers were concerned when quotas were implemented, and feared that freed quotas would lead to distribution of quotas to particular regions. This could be harmful for some companies which are not national in scope. They forced the Government to adopt a system that would respect the individual weight of the production for every region and every processing plant.

As a general rule, 10% of freed quotas from mountain region and 20% of freed quotas from other regions are directed to a national reserve. The rest is supposed to remain for the processing plant where the outgoer delivers his production.

Then quota are reallocated within the pool of producers attached to this processing plant. This process gives a great power to processing plants. It allows them to attract selected producers by increasing their quota.

Table 10 : Origin of Quotas Directed to the National Reserve 1984-90 (Tons).

	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90
Total resource of the national reserve	102,767	581,279	187,368	114,053	71,178	467,686
Resource from previous years		14,524	27,562	58,716	53,950	86,921
Resource from cessation schemes	70,767	167,994	47,118	89,269	40,140	116,812
Resource from land exchanges		169,000	250	4,462		
From EEC reserve		228,010	140,000	100,000		256,340
Other resource	3,200					

Source : ONILAIT

Freed quotas from the EEC cessation scheme were entirely taken out and not redistributed.

Cost for collection of milk is greater in France than in other EEC countries due to the size of farms. The processing industry is very much interested in reducing this cost. The distribution of freed quotas contributed greatly to this reduction.

Freed quotas from cessation schemes allocated to the national reserve are then reallocated to producers regardless of the regional origin of the quotas. The national reserve is thought to compensate for bias introduced by the system including :

- production during the reference year was not representative of the general trend of the farm,
- official development plan that finance an increase of production during the quota period,
- SLOM program. Aided suspension of production previous to implementation of quotas,
- attribution of temporary quotas to producers who suffered a loss in production the previous year due to climatic condition.

The national reserve is also supplied with quota coming from other sources.

Transfer from direct sales are directed to the national reserve. When land is sold, the quota attached to it is transferred to the new owner, but 40% of the quota is retained and directed to the national reserve.

There was a general consensus in France among the dairy sector to choose such a solution.

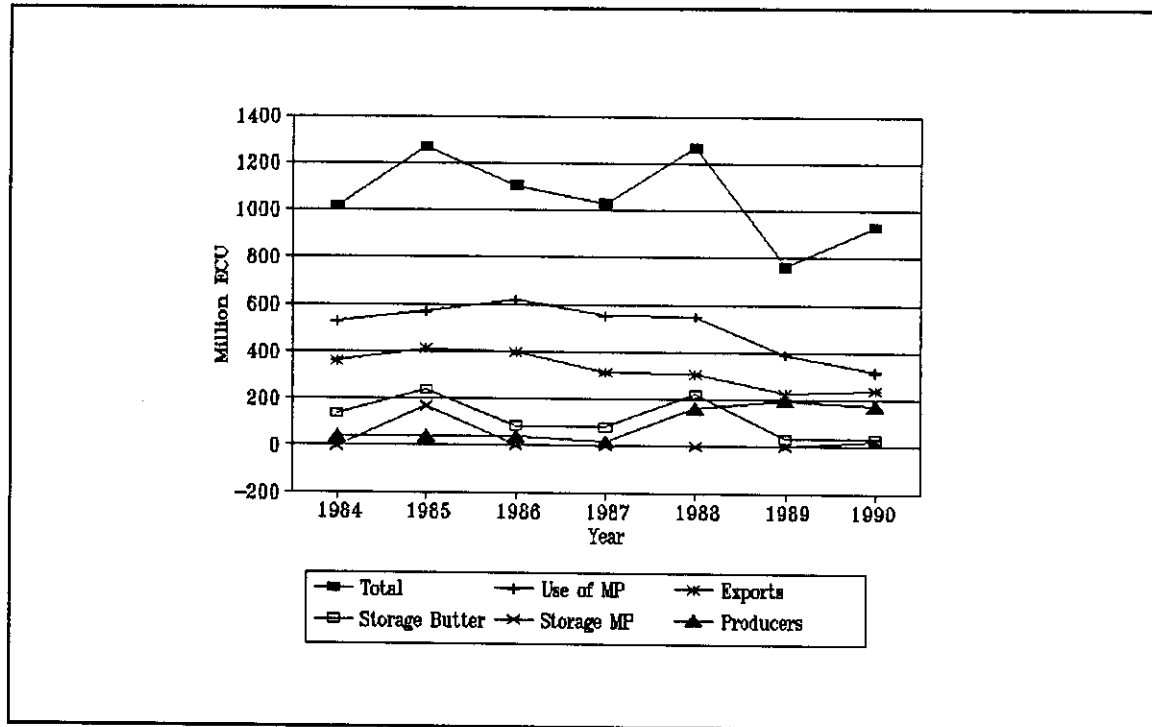
But at the same time producers complain that the national reserve is not large enough to implement more radical modification of the sector structure, specifically for those who operate in a region where cessation schemes are less attractive. As these regions have as a general rule a competitive advantage for dairy production, producers are willing to expand production.

There is no general consensus to find new substantial resources for the national reserve. Reduction or suspension of reference by 1% of the 1986 campaign in 1989 could have been a good opportunity to reintroduce more quotas into the national reserve, but Government, on request of Farmers' Unions decided to distribute this source of quota evenly to every producer.

2.2. Demand Management

Demand management in the dairy sectors consists of two main interventions. The first intervention consists of direct subsidizing of dairy products for selected uses, and the second intervention consists of storage of selected products surplus, mainly butter and milk powder in order to even market excess during certain periods.

**Figure 5 : Community Subsidies for Dairy Market Support in France 1985-90.
(Detail of Subsidies Allocations)**



2.2.1. Subsidies for Dairy Products Consumption.

2.2.1.1. Description of the Framework.

Subsidies can be parted in several categories depending on their regional destination and their final use :

- exports/internal consumption
- Human/Animal Consumption.

Selected dairy products, milk powder, butter, cream for human consumption and some selected kind of cheese are subsidized for exports to third countries, countries not belonging to EEC. This subsidy is called restitution. Restitutions for exports are subject to careful monitoring by GATT partners. Quantities and amount of restitutions are decided by the Agricultural Minister's Council twice a year. A similar system called Monetary Compensatory Amounts (MCA) was implemented until 1987 for exchanges between countries of the EEC to compensate for fluctuation of money exchange rates and cost of production of products. This system is progressively eliminated and does not play any role for dairy products in the EEC anymore. In addition, as of January 1993, boarder within the Community are going to be completely open. Products will be exported to other EEC countries at a price including consumption tax of the origin country of the product.

Subsidies are also given for use of milk powder. The main uses directly subsidized are casein production and milk powder denaturation for veal foodstuff. It can be seen that this last measure is in competition with another subsidy for dairy farms stated earlier called the "suckling cow premium".

2.2.1.2. Evolution of Quantities of Subsidized Dairy Products.

It has to be stated, that quantities subsidized and level of subsidies come out of a political decision level. The evolution of quantities subsidized reflects the political translation of phenomenon observed on the market. This is particularly true in allocation of subsidies and priority given to selected subsidies.

In the model developed by A. Oskam (2.14), which was used to make decision on quotas, priority was given to exports subsidies. In this model, subsidies for the internal market for agricultural use were in second place, and storage came in third.

Allocation of resources, i.e. public funds for market subsidies, responds to a political orientation and price signals given by the market.

Table 11 : Quantities of Subsidized Milk Powder in France 1987-90 (Thousand Tons).

Years	French Market	Exports	Total
1987	353,587	130,000	483,587
1988	317,276	87,000	404,276
1989	263,014	86,000	349,014
1990	262,165	94,000	356,165

Source O.N.I.L.A.I.T.

Quantities subsidized, both on the interior and international market followed, since 1987 a downward trend, until 1989 (Table 11). In 1990, quantities subsidized on the national market remained almost stable. For exports, quantities slightly increased. This has to be linked with excess production in France in 1990, that ignited the intervention of the Community to start storage again.

This trend has to be linked with the level of premiums given to processors, as a subsidy for milk powder denaturation for animal feeding and premium for casein production. Until mid 1990, the level of the premium followed a downward trend, showing confidence on the market. Since the mid 1990, the amount of the premium started to increase again.

The comparative weight of milk powder subsidized exports, and milk powder subsidized for internal use has grown through the past few years. There's no indication to assert if the international market did not support such a quantity of subsidized product, or if GATT negotiations had a direct impact on quantities exported.

2.2.2. Description of the Buy-Out and Storage Program.

2.2.2.1. How the system works

In France excess production of milk is converted into butter and skimmed milk powder. These products are an indicator of health of the market.

Initially, the intervention system was introduced to compensate for seasonal variation of milk production and avoid an abusive milk production price fluctuation. The intervention on butter and milk powder market was implemented as a milk production sector support system.

The system for intervention on butter and milk powder market is a very classical one. A target price is decided by the Commission for products that can be delivered to market intervention. As soon as the market price goes under the target price, the industry can ask for intervention for quantities of butter or milk powder. In 1986, from March to May, the Community decided to impose a delay of 60 days between the day the processing plant asks for intervention and the actual storage of the lot. This is a measure to try to impose a self-regulation of the market by removing artificially quantities from the market during 60 days without cost for the Community. This measure did not have a significant impact since huge quantities were actually stored. In September, the deferral was even increased to 120 days.

It was argued that changes in the system introduced so much uncertainty that market price setting was completely disoriented in 1986.

At the same time, the Community was trying to release older stocks on the market, anticipating reduction of production acting in favor of limited intervention on the butter and milk powder market.

Starting from 1987-88, the Commission adopted a limited suspension of intervention for butter, skimmed milk powder and beef.

The new intervention system for butter consists of a threshold on the quantities offered for intervention after March 1st (180,000 tons). When prices fall below 92% of intervention price in one or more of the Member states, then intervention starts in those Member States. If the quantity offered after March 1st exceeds 250,000 tons, intervention restarts when the market price falls 10% below the intervention price (4.16).

In the case of skimmed milk powder, intervention between March 1st and August 31st can be suspended as soon as the quantity offered after March 1st exceeds 100,000 tons.

Reduction of public stocks of butter and intervention products has been done through extensive modifications of the rules for interventions. It was felt that the industry was not properly playing its role for market regulation. In addition, anticipation of a sound situation on the market, after reduction of milk production

should have encouraged the industry to face the market's future evolution with reasonable uncertainty. When the decision was taken to implement quota for milk production, the Community had completely lost control of the situation on the milk market. Such bias were introduced that only aggressive action could reverse the trends.

2.2.2.2. Impact on storage of butter and powdered milk.

Since 1983, public purchase of butter and milk have decreased dramatically.

Purchase of butter was more than 130,000 tons in 1983 (Table 12). Purchase decreased 25% in 1984, and 25% again in 1985. But suddenly, the Community had to commit itself again on the butter market to support the price. The next year, due to the important suspension and reduction of quotas, purchase has decreased 85%. In 1988, purchase was small and in 1989 the Commission purchased no butter. Unfortunately, in 1990, the buy-out program became effective again and 18,000 tons were bought by the Community.

Public stocks, through release and decreased purchase followed the same trend. Reduction started in 1984, but in 1986 stocks became larger than in 1983. Then stocks started to decrease again, reaching a minimum in 1989. In 1990 stocks increased at a relative low margin.

For milk powder the trend is quite similar but quicker. Public purchase of milk powder was almost insignificant in 1984. It increased in 1985 and 1986 but was only 10% of purchase in 1983. Beginning in 1987, and for 3 consecutive years, purchases were nil.

Table 12 : Stocks and Public Purchase of Butter and Milk Powder in France 1983-90 (Tons)

	1983	1984	1985	1986	1987	1988	1989	1990
STOCKS								
- Butter	147,561	117,070	83,950	190,722	119,785	8,144	1,264	16,012
- Milk Powder	28,857	3,437	3,833	4,441	0	0	0	20,778
PUBLIC PURCHASE								
- Butter	135,028	101,865	77,426	126,791	19,128	680	0	18,307
- Milk Powder	40,601	680	3,848	5,806	0	0	0	21,378

Source : ONILAIT

Public stocks of milk powder were nil in 1985 (Table 12). But additional and unexpected purchases in 1985 and 1986 drove it upward. More worrying is the dramatic increase of stock in 1990. The situation of stocks reflects clearly the strength of the constraint of quotas reduction on producers. As soon as a reduction of production is not imposed on producers, public purchases start again and stock of dairy products increase.

The fragile equilibrium, of intervention price for butter and milk powder, subsidies on dairy product consumption, quotas and production is very sensitive only 10% of purchase in 1983. Beginning in 1987, and for 3 consecutive years, purchases were nil.

Table 12 : Stocks and Public Purchase of Butter and Milk Powder in France industry as a whole. Some structural characteristics of the processing industry could perhaps explain to some extent the risk averse attitude.

It is expected that, once bias of the system would be eliminated and milk production reaches an acceptable level regarding demand, the processing industry would be in a better position to ensure regulation of the market.

2.2.2.3. Release of stocks.

Public stocks of butter benefit certain class of industrial and institutional consumers including :

- Bakers,
- Ice cream producers
- Army,
- Public organizations.

Another part of public stocks is used for humanitarian aid to foreign countries, humanitarian aid to homeless person, and christmas butter. Special quantities are sold at intervention price plus 1 ECU/100 kg, and exports are subsidized, mainly to USSR. Some part is incorporated into animal feeding at subsidized price.

Proportion of butter released to each outlet are highly variable and subject to individual decision each year. Prices are highly variable and depend on every individual program.

Public stocks of skimmed milk powder go mainly to agriculture, through subsidies, to incorporate it into animal feeding, and to humanitarian aid. In addition milk powder is sold at the intervention price plus 1 ECU/100 kg and subsidized for exports. The most important outlets are generally, sales at subsidized price and exports.

Both for butter and milk powder, the Community decided in 1987 to deplete the stocks, and create a sounder situation, both financially and for the market (Table 13).

Very large quantities of butter were allocated for exports, concentrated butter, for incorporation in veal feeding and to humanitarian aid. For concentrated butter large quantities were also released the preceding year.

For 1986 and 1987, bakery and ice-cream industry took advantage of a large release of butter. As explained in the preceding chapters, 1986 and 1987 marked a turning point in the history of public stocks. Rules for intervention have been strengthened, and the Community took a strong initiative to decrease the amount of butter stored.

Table 13 : Use of Public Stocks of Butter and Milk Powder Released in France 1984-90 (Tons).

	1985	1986	1987	1988	1989	1990
BUTTER						
Bakery + Ice Cream	96,752	161,677	142,608	74,016		
Exports	149,782	107,184	358,282	16,000		
Concentrated butter	15,095	33,493	34,112	3,062	1,003	
Intervention Price + 1 ECU/100 kg	1	283	16,724	500		7
Humanitarian Aid	67,983	35,992	20,434	3,416	83	122
Veal Feeding		14,801	181,283	8,828		
General Aid			19,189	1,515	2,331	3,363
Army				882	2,246	
Institutions				4,102	1,216	
Miscellaneous	6,550	14,648			1	67
MILK POWDER						
Animal feeding	258,419	272,574	3,908			
Humanitarian Aid	37,203	28,186	19,880	0	0	
Fixed Price Sales	44,417	13,922	171,171	0	0	
Int. P. + 25 ECU/100 kg			149,307	0	0	
Miscellaneous	4,932	35,798	11,696	0	0	600

Source : ONILAIT

Concerning milk powder, the situation was not as dramatic as it was for butter. Since 1985 large quantities of stored milk powder have been released for animal feeding. In 1987, the remaining quantities stored were released on the market at fixed prices through adjudication. This was made possible, only because the condition of the market was improving.

3. DISCUSSION OF SOCIAL COST AND BENEFIT OF THE MARKET REGULATION POLICY.

In the first chapter, I described the objectives of the different programs implemented to support the dairy production sector in France. In this chapter, I will attempt to evaluate the degree of fulfillment of the program original goals. I will try to identify the unexpected impacts of this policy, both in the dairy sector, in other animal production sectors, and for the final consumers. The main objectives were social objectives and to establish a new equilibrium on dairy products markets.

3.1. Direct Cost of Supply and Demand Management

3.1.1. Direct Cost of Cessation schemes.

The financial cost incurred for the implementation of cessation schemes was supported both by the EEC and the French Government. Almost 20% of the cost is supported by the French Government, 4% by regional funds and the rest directly financed by the "FEOGA" fund. Information about sums spent on each program every year by each source are difficult to obtain since some premiums are paid through 7 years, some premium for retiring farmers diminish as

**Table 14 : Trend in "FEOGA" Expenses for Dairy Sector Policy in France 1984-90
(Million FF).**

Year	1984	1985	1986	1987	1988	1989	1990
Cost of Cessation Schemes (a)	742	565	556	615	846	826	1,131
Total Cost of Measures for Farmers (b)	1,009	837	821	767	2,007	2,209	2,353
Cost of Market Support (c)	6,707	8,344	7,255	6,971	7,747	3,961	5,324
Total Cost of Dairy Sector Policy (d)	7,716	9,181	8,076	7,738	9,754	6,171	7,677

Note : (d) = (b) + (c)

(b) = (a) + (10)

(c) = (1) + (10) - (9)

(x) refers to lines in Table 15.

Source : ONILAIT, CNASEA.

retirement benefit increases, and shares paid by french funds or regional funds are different depending on programs.

As a consequence, it is also difficult to estimate cost of each program, as for part of them, premiums continue to be paid.

The only indicator is the amount paid every year for cessation schemes as a whole. These numbers must be interpreted carefully. The first line in Table 14 introduces the amount paid within a year regardless of the program the sum is related to. This amount has increased regularly since 1985, with a more important increase in 1990.

The total amount paid since 1984 for cessation schemes is more than five billions francs. This amount is almost doubled if other measures aimed to dairy producers are included. These additional measures are premium for extensive production system and a premium called "suckling cow premium".

3.1.2. Cost of Demand Management

Cost of market support through its diverse aspects has followed a downward trend since 1985. In fact 1985 was the last year for which the EEC had to cover expenses to give away public milk powder stocks. Since then, no expenses were incurred for milk powder storage. But during 1988, the Commission had to commit itself again for storage of butter and cream.

Restitution expenses for exports have declined more than 40% since 1985. The international context and negotiations for GATT, had put pressure on subsidies for exports.

The subsidies for use of milk powder have been decreasing since 1985 (Table 15). But the general trend of subsidies is not very clear. These subsidies are of important political impact since part of these subsidies go back to the beef production sector for milk powder incorporation into calf feeding.

**Table 15 : Community Subsidies for Dairy Market Support in France 1984-90
(Millions ECU).**

	1984	1985	1986	1987	1988	1989	1990
(1) Milk and milk products	1,015	1,268	1,106	1,028	1,266	761	932
(2) Restitution for Exports	361	411	400	315	308	226	240
(3) Public storage of powdered milk	(3)	693	0	0	0	0	23
(4) Subsidies for use of MP	526	570	618	552	551	388	319
(5) Storage of butter and cream	137	240	86	83	223	35	34
(6) Other measures for dairy fat	67	114	91	104	97	122	162
(7) Cheese storage				7	6	7	7
(8) Other measures milk products	36	44	57	52	41	52	64
(9) Measures in favor of producers	39	40	39	22	165	197	174
(10) Financial contribution of producers	(157)	(159)	(183)	(110)	(129)	(266)	(92)

Note : (1) = (2) + (3) + (4) + (5) + (6) + (7) + (8) + (9) - (10)

Source : ONILAIT

The general measures for dairy fat are very irregular, but during 1989 and 1990, it has been increasing. Since, the situation in the butter market is not very clear, and public storage of butter continues, some measures to help consumption of dairy fat can still apply as a stabilizing measure.

As a whole, and if financial contributions of dairy producers are not included in the total cost, the general trend is a decrease.

3.1.3. Analysis of Total Costs.

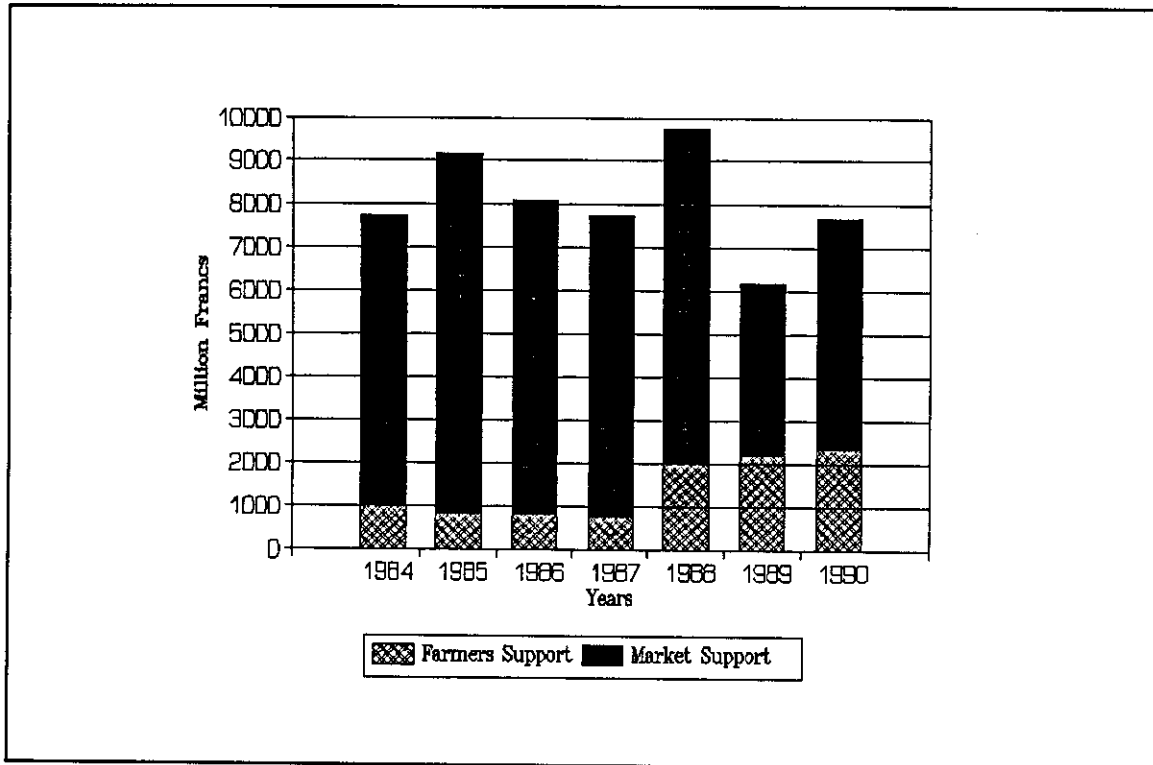
The total contribution of dairy producers raised since quotas have been implemented in the dairy sector. As their contribution is composed of the co-responsibility levy paid for any liter produced, which is compulsory, and the super-levy paid only by producers over-producing, the total amount is highly variable. For 1986 and 1989, when producers had to pay a super-levy in France, their contribution was substantial and contributed to reduce the cost for the EEC.

1984 excluding, total cost of measures for farmers started at 9.1% of total cost of dairy sector support and ended at 30.5% in 1990. If only the cost of cessation schemes is considered, this percentage varies from 6.1% to 14% for the same period. Simultaneously, the total cost of the policy decreased 18%.

While the proportion of expenses devoted to restructuring raised, permitting at the same time to reduce dairy production, the total cost of European funds spent on dairy sector support has decreased.

We can not conclude from this point, that the implementation of a quota program would have as a direct consequence the return of the pendulum to an equilibrium point for the dairy products market. The previous situation, when market surplus had to be removed through storage programs, was not an equilibrium, since it became clear that subsidizing of dairy products was encouraging dairy producers to deliver more milk to the market. At the same time, the revenue of the farmers

Figure 6 : Trend in "FEOGA" Expenses for Dairy Sector Policy in France 1984-90 (Millions FF).



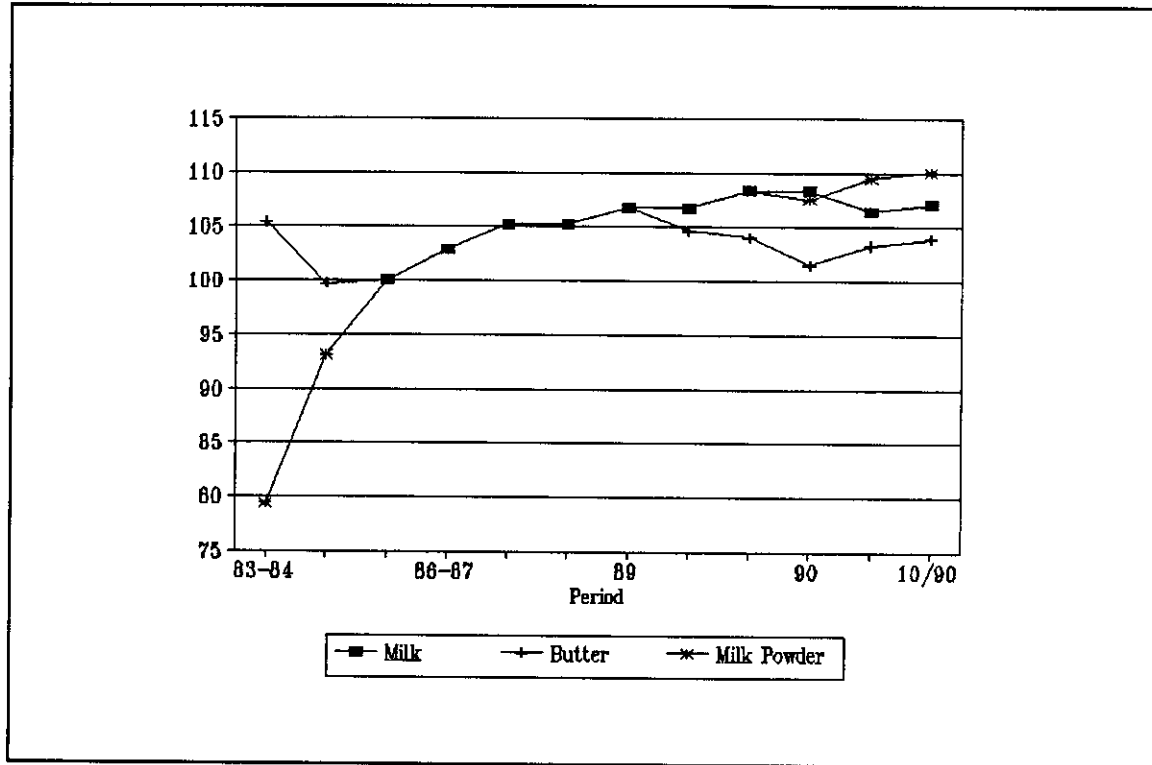
was deteriorating and market support was not encouraging the needed restructuring of the production sector.

3.2. Analysis of Market Benefit

Expected market benefit are to be assessed on the basis of market efficiency. The stated objectives of the demand management and support policy were :

- stability of prices for milk, butter and milk powder,

**Figure 7 : Evolution of Target Price for Dairy Products in France 1985-91
(100 = 1985).**



- transmission of price signals that reflect supply conditions and consumer preferences,
- market coordination,
- assure consumers of adequate supplies of good quality dairy products at reasonable price,
- stability of income for producers and processors,

Out of this set of objectives, some were transferred to the regulation administration, and the question should be : did the administration perform satisfactorily

- in market coordination,
- transmission of price signals,
- and stability of prices ?

Table 16 : Trend in Self-Sufficiency for Selected Dairy Products and Meat in France 1980-88 (%).

Years	1980	1985	1988
Dairy Products			
- Fat	121	121	116
- Proteins	118	137	131
- Fresh Products (No cream)	101	111	103
- Whole Milk Powder	2216	721	102
- Skimmed Milk Powder	117	135	122
- Condensed Milk	191	232	238
- Cheese	115	114	113
- Butter	119	118	107
- Margarine	84	74	74
Beef Meet			
- Beef	114	121	121
- Veal	108	110	108

Source : Eurostat

The second main objective was to restore a market condition so that the market agents can take in charge functions performed by the administration, and still reach the objectives stated above.

3.2.1. Effect on Butter Market.

Since the priority goal for dairy product supply management was reduction of surplus production, efficiency of the program can be upraised through the market behavior of products traditionally considered as refuge for dairy production.

Self-sufficiency as described in Table 16 consists of the ratio of supply over domestic demand in France. Available data, shows fat and butter self-sufficiency. In 1980, the estimated ratio is 119, showing a surplus. The same ratio can be found in 1985. But in 1988, this ratio has improved, showing a decreasing trend. Surplus production is still present.

As an other indicator, market price of butter compared to target price is representative of the evolution of the market. Data shown in Figure 8 are averages and do not show seasonal evolution of price. Target price since 1984 always remained over market price showing a need for intervention up to 1989. Public purchase followed the same pattern showing no intervention buy out of butter during 1989. This improvement of butter market during 1989 permitted to release butter from the community intervention stock to the market. Again, in 1990, market price of butter decreased below target price. Public purchase of butter started again.

While public stocks decreased during this period, private stocks almost remained at the same level, probably leveling seasonal variation of milk production. Public stock of butter never reached a zero level since implementation of dairy quotas.

Figure 8 : Market Price and Target Price for Butter 1987-90 (FF/kg).

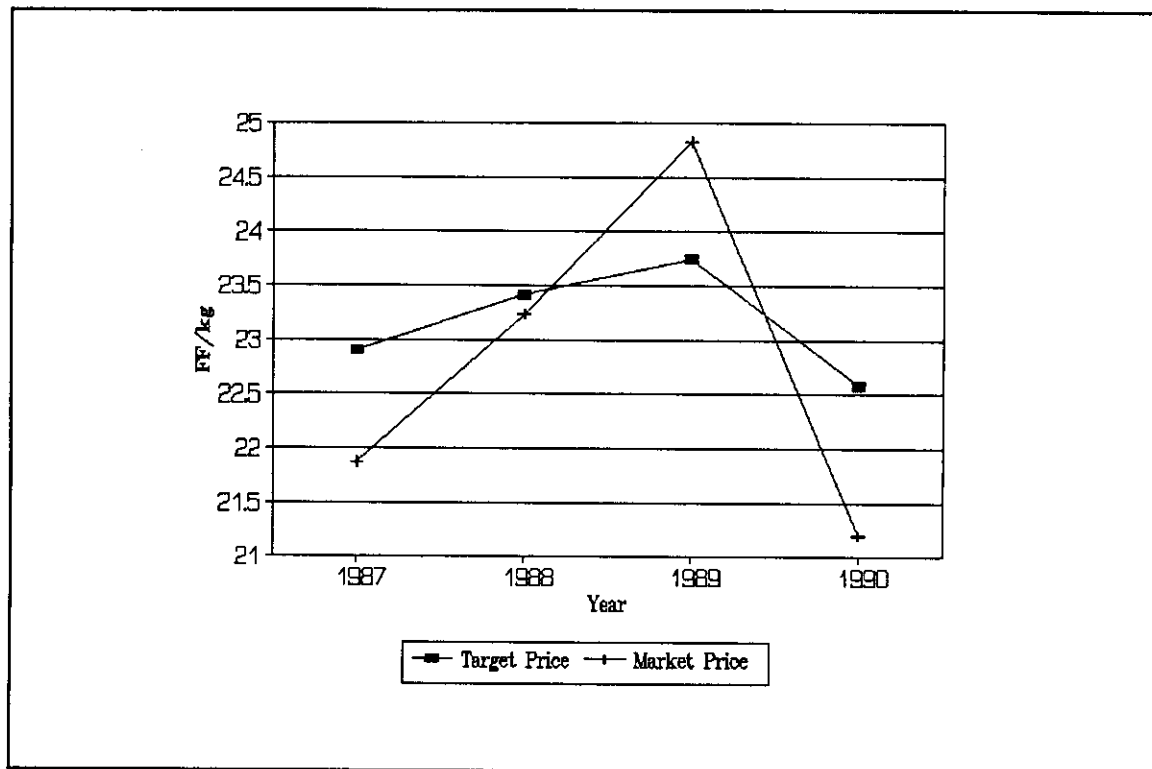
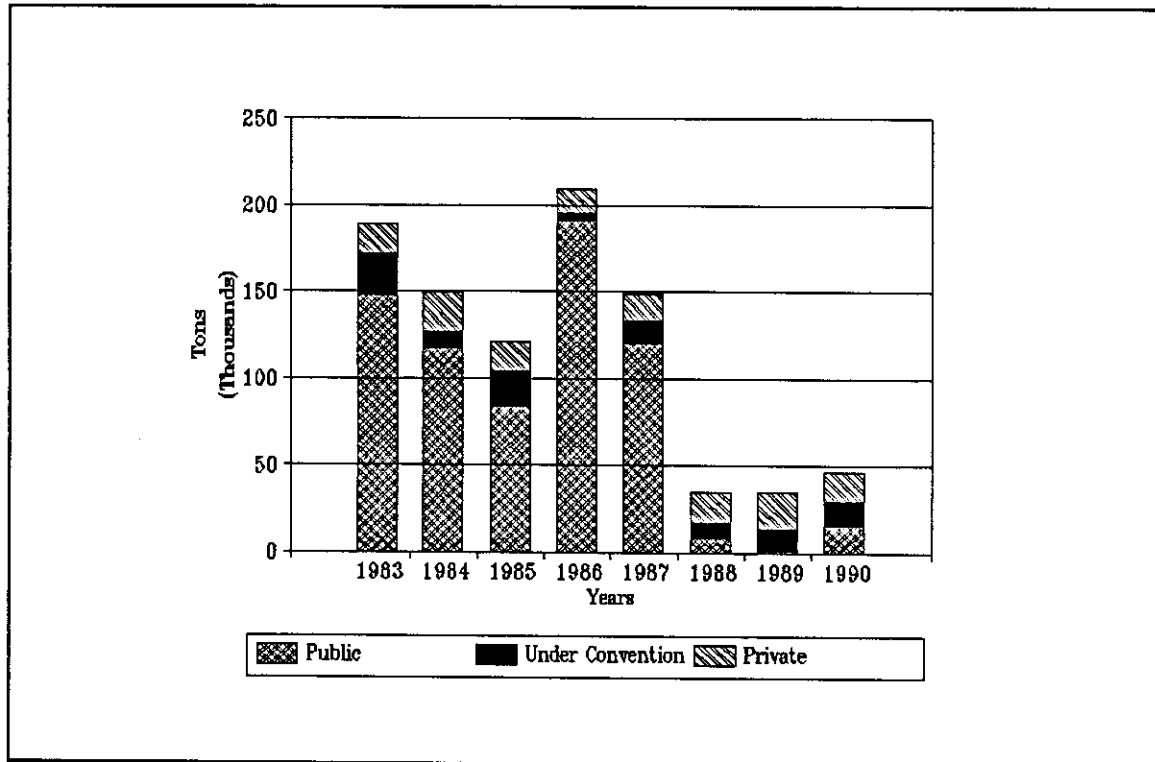


Figure 9 : Storage of Butter in France 1983-90 (Tons).

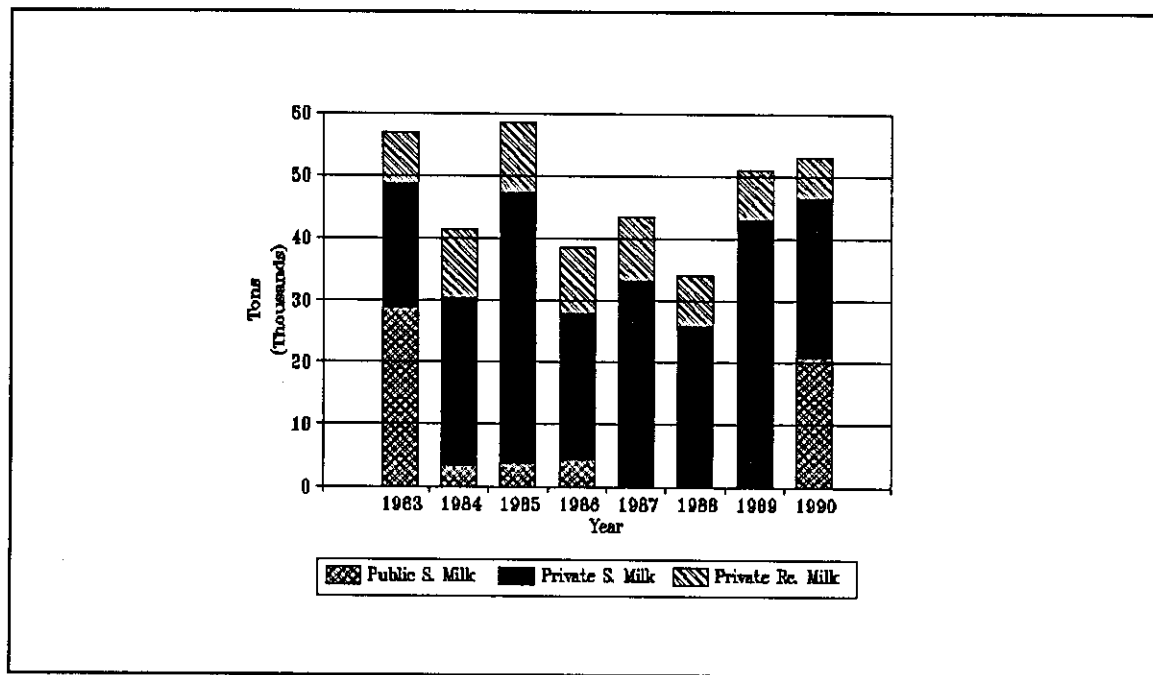


The evolution of butter storage shows that equilibrium of market is very fragile. Above quota production in 1986 resulted in increase of public stocks through intervention buy-out. The new rule introduced in 1987 for intervention had an effect on reduction of butter public purchase, avoiding abuse of the system. Public stocks should enter in action only for unexpected event on the butter market. As profitability of butter production is insured by reasonable market prices, butter producers should perform seasonal butter storage to adjust for variable supply and demand within a year.

3.2.2. Effect on Milk Powder Market

Milk powder self sufficiency is expressed through whole milk powder and skimmed milk powder self sufficiency. Excess production of whole milk powder was sky high in 1980. This ratio decreased then, after reaching an acceptable level in 1988. For skimmed milk powder, this ratio always remained high, over 120%.

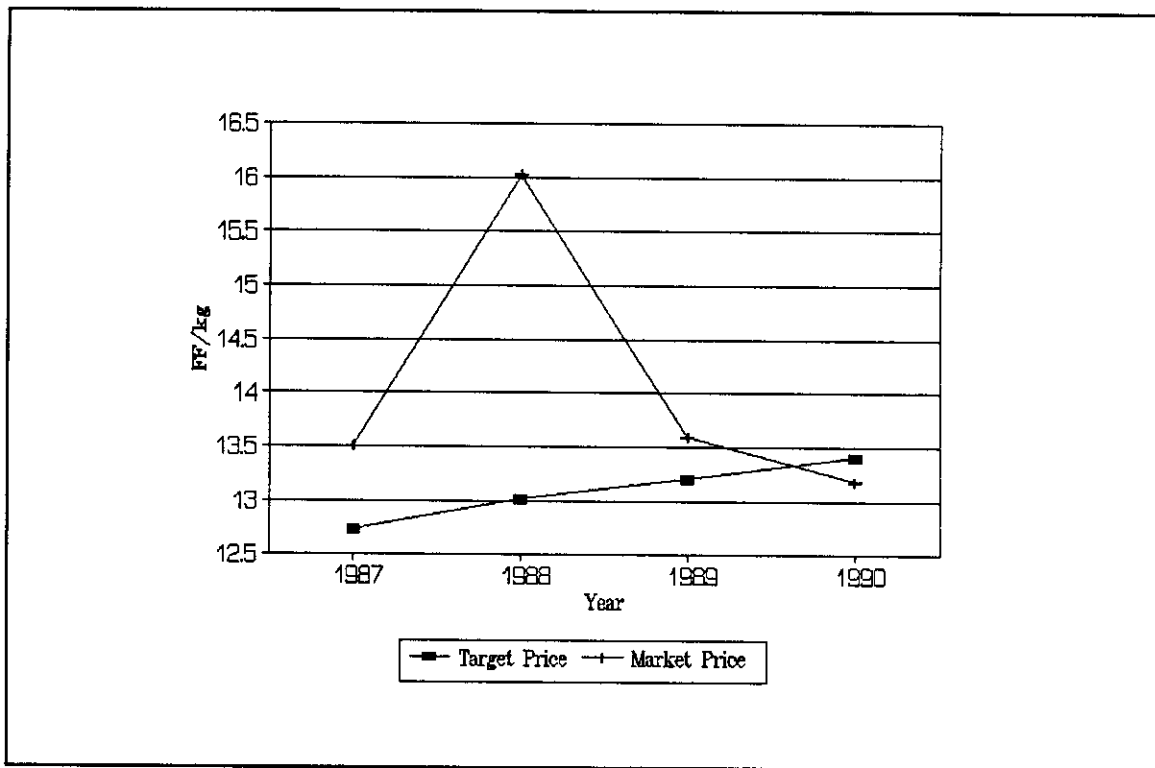
Figure 10 : Storage of Milk Powder in France 1983-90 (Tons).



There has probably been a production transfer from whole milk powder to skimmed milk powder throughout the years. This explains the remarkable stability of skimmed milk powder self sufficiency ratio.

The milk powder storage averaged 40,000 tons since 1983. Significant changes occurred in public and private stocks share. As shown in Table 12 public purchases stopped in 1987, while quantities purchased were very low since 1984. Consequently, public stocks remained very low during this period. As shown in Figure 11, market price remained above target price since 1986. Starting in 1989, market price decreased and public purchase resumed.

Figure 11 : Market Price and Target Price for Milk Powder in France 1987-90 (FF/kg).



An interesting phenomenon occurs on the milk powder market. Quantity stored by private operators added to public storage remain relatively constant. If

management of supply proves successful in the coming years, the suppliers behavior of could be interpreted as a risk averse attitude toward the market.

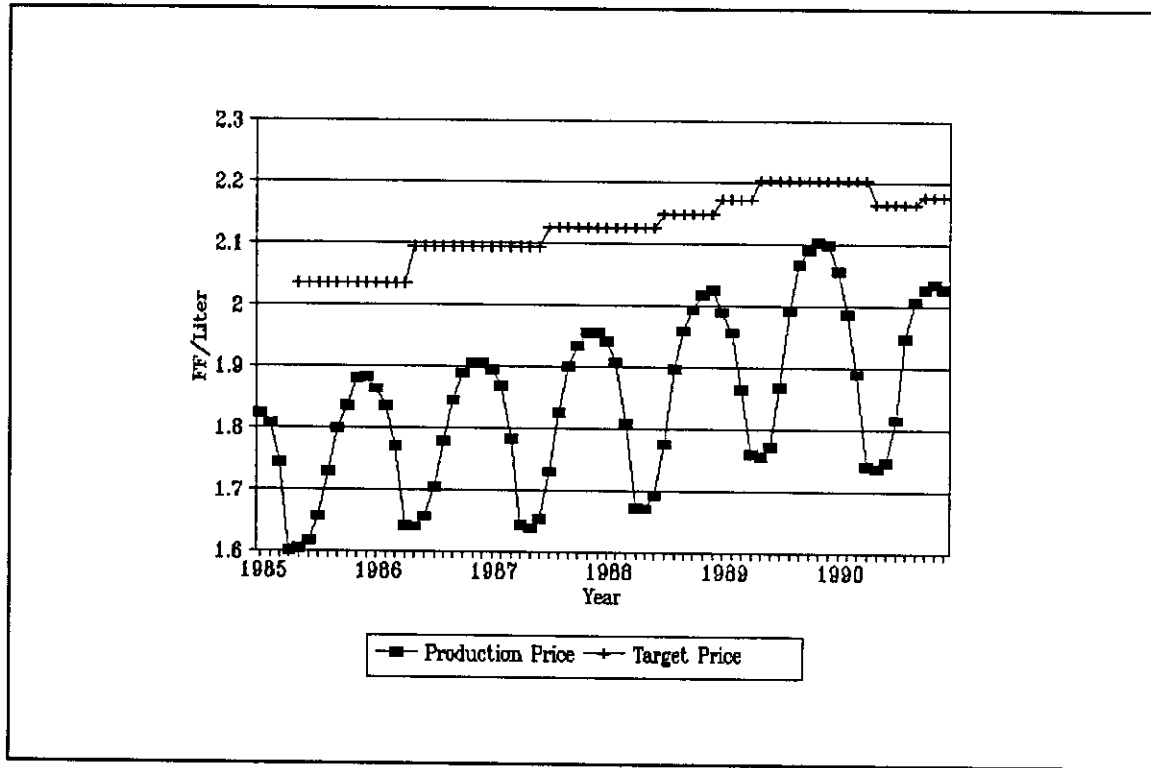
3.2.3. Effect on Milk Market Price.

Despite the existence of a common guaranteed price, the farmers' milk price differs from dairy to dairy because of number of factors such as :

- Structural differences in dairies resulting in different efficiency in collection and processing of milk and in the marketing of milk and dairy products;
- differences in the utilization of milk. The production of cheese is generally more profitable than butter production;
- the degree of self-sufficiency : surplus areas receive in general a lower price for milk than deficit areas.

In France, milk price remained always below official target price. Between 1983/84 and 1987/1988, the milk price received by farmers remained fairly stable. Starting from 1988, it started to raise as a result of increased competition for milk in the dairy industry and higher prices for dairy products on the world market. This itself was largely the result of the liquidation of intervention stocks in the EEC and the forsake of permanent buying-out at guaranteed prices by intervention authorities.

Figure 12 : Farmers Price and Target Price for Milk in France 1985-91 (FF/Liter).



The target price of raw milk is not directly linked to the target price of milk powder and butter. Since 1984, the target price of raw milk has been frozen (ECU value) in an attempt to tie it to the market of processed products reality.

3.2.4. Seasonal Movement in Milk Deliveries.

The quota system came as a surprise to most dairy farmers. Many adopted a wait-and-see attitude in the beginning, particularly since they were not yet familiar with its implementation. There was considerable skepticism regarding the feasibility of the system, even in Government circles. Because adjustments in the dairy herd take time, the first modest sign of a decrease came about in April 1984

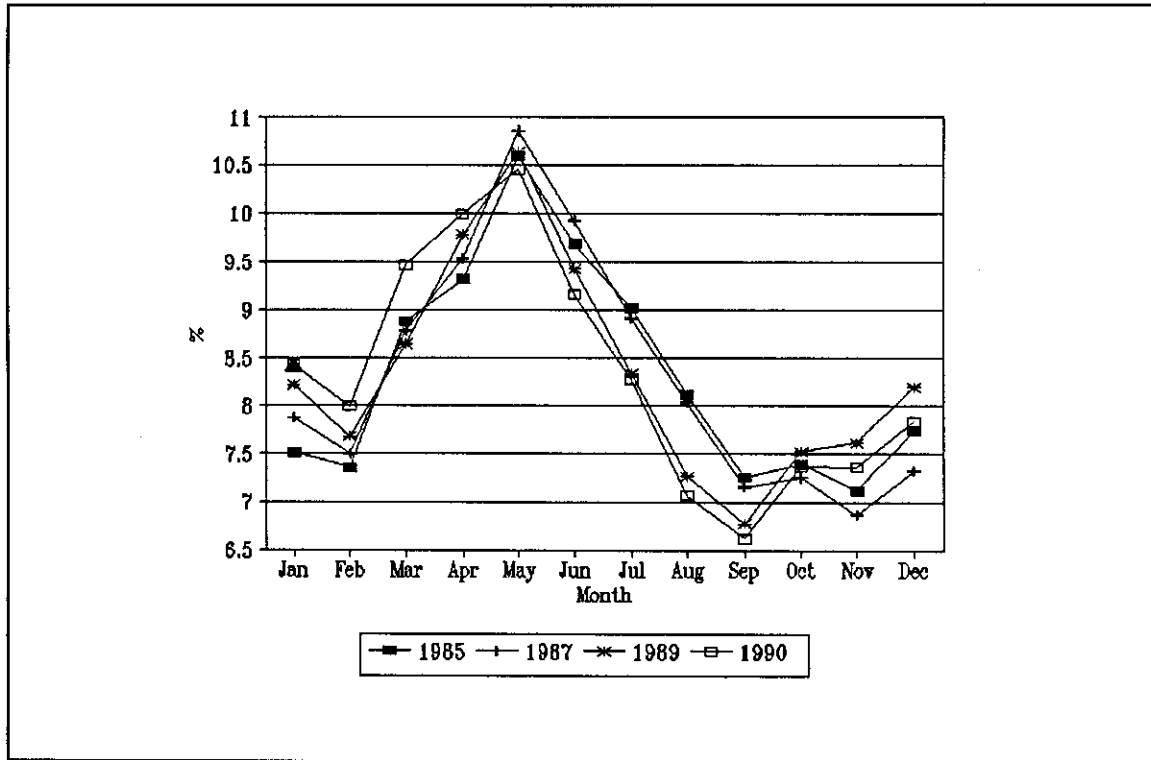
with the effective introduction of milk quotas. A major cutback occurred in the second half of 1984 and in early 1985. This perturbed greatly the seasonal pattern in milk deliveries. In 1984, the monthly shares in the annual delivery shifted to the advantage of the months of January to March and to a lesser extent April and May. As a result, the difference between the volume of summer and winter milk decreased. From 1985 on, the monthly shares returned to their former level (before 1984).

The increase in share of winter milk production, induced by higher prices for such milk in order to satisfy the demand for fresh and manufactured products during this period, took place mainly in the years 1982, 1983, and 1984, before the introduction of the milk quotas.

The tightening of the quota regime in 1986 and 1987 restored discipline although the seasonal pattern of production remained the same, indicating that the cutbacks occurred mainly during the summer months.

Strikingly, comparing seasonal production curves of years preceding implementation of quota, milk deliveries decrease in March, the last month of the milk year, when farmers curtail milk deliveries to avoid overshooting their quotas.

Figure 13 : Seasonal Distribution of Milk Deliveries in France 1983-90 (%).



3.3. Analysis of Dairy Production Sector Structure Benefit.

3.3.1. Evolution of Age Structure.

Evolution of farmers age is a good indicator of cessation schemes efficiency, since some selected programs were targeted to particular class of ages. In addition, some programs were targeted to small dairy operation, which is a characteristic of older dairy farmers (2.3).

The classification chosen for demonstration has to be interpreted (Table 17). In fact the proportional share of producers aged 55-65 can lead to a

misinterpretation. In this class are included older farmers operating the farm with sons. Their behavior to some extent must be closer to the behavior of younger farmers, since, the son is supposed to inherit the farm and operate it later.

Table 17 : Evolution of Farm Structures Related to Age of Farmers in France 1981-89 (%).

Age of Farmer	Farms			Dairy Cows		
	1981 %	1985 %	1989 %	1981 %	1985 %	1989 %
< 35	9.1	11.5	12.4	12.6	16.2	16.3
35-39	5.7	8.4	9.2	7.6	11.1	11.9
40-44	8.5	7.5	9.7	10.9	9.2	11.4
45-49	15.6	13.3	10.5	17.8	15.2	11.4
50-54	18.9	20.2	18.8	19.6	21.0	18.5
55-56	20.7	20.5	22.0	19.0	17.2	19.8
60-64	11.0	12.2	11.3	8.0	8.0	8.2
65-69	5.4	2.6	3.1	2.7	1.0	1.4
> 70	5.1	3.8	3.1	1.8	1.1	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source :S.C.E.E.S.

In 1981, 85% of the farms were owned by producers aged 40 or more. Around 50% were owned by farmers above 55. In terms of absolute value, all classes decreased during the period considered. In terms of proportional share, all classes

decreased, except the class of youngest farmers. The class of 55-65 years old farmers stagnated during the period with a little inflection in 1985.

For the evolution of cows owned, the same analysis can be supported, but the phenomenon is more accentuated. Producers aged under 40 represented 20% of cows owned, showing a larger size of younger farmers' herd and grew up to 30%. Cows owned by farmers 40-55 decreased significantly. The remark made above for class of age 55-65 can be corroborated by data concerning cows ownership. In terms of absolute value, the number of cows of the youngest class increased until 1985 and decreased later following the total number of cows general trend.

The assumption made by the Commission and the ONILAIT proved to be right, but not as intensive as expected. All classes of farm decreased during the period, even if young farmers willing to enter the dairy production industry would benefit of preferred rate for credit and easy access to quotas.

3.3.2. Evolution of Size of Herd Structure.

Size of herd was indirectly a discriminating factor for cessation schemes, since most of programs were limited to a certain quantity of milk. Obviously, farmers with big herd were not encouraged to terminate production, while part of their quota would not be included in the premium they would receive. To some extent,

it can be considered that producers with larger herds would enjoy a more comfortable revenue, efficiency of their operation being to their advantage, since scale economies are to be expected. It can be argued too, that processing plants would encourage larger herds to enjoy cheaper collection costs.

Table 18 : Distribution of Farms Related to Size of Herd in France 1979-89 (%).

	1979	1984	1987	1988	1989
Number of Dairy Cows per Farm					
1-2	12.8	11.5	9.4	10.0	9.3
3-4	11.2	8.1	5.9	5.6	5.0
5-9	21.4	17.4	14.4	13.0	12.2
10-19	31.5	30.4	27.7	27.1	27.3
20-29	14.5	16.6	19.7	21.0	21.2
30-39	5.1	7.7	11.6	12.0	12.8
40-49	2.1	4.5	6.1	6.3	6.7
50-99	1.3	3.6	5.0	4.7	5.2
100 +	0.0	0.1	0.2	0.2	0.3
Total	100.0	100.0	100.0	100.0	100.0

Source S.C.E.E.S.

The major purpose of cessation schemes was to encourage smaller producers to get out of the dairy market and leave more room for larger, more efficient dairy operations.

**Table 19 : Distribution of Dairy Cows Related to Size of Herd in France 1979-89
(% of farms).**

	1979	1984	1987	1988	1989
Number of Dairy Cows per Farm					
1-2	1.4	1.0	0.7	0.7	0.6
3-4	2.8	1.7	1.0	1.0	0.8
5-9	10.6	7.1	5.1	4.5	4.1
10-19	31.6	25.3	19.8	19.2	18.7
20-29	25.4	23.5	23.8	25.1	24.4
30-39	13.0	15.5	19.8	20.3	20.7
40-49	7.5	11.6	13.4	13.8	14.0
50-99	7.2	13.4	15.3	14.2	15.1
100 +	0.5	0.8	1.0	1.1	1.4
Total	100.0	100.0	100.0	100.0	100.0

Source S.C.E.E.S.

At first sight, it can be noticed that all categories of farms, except the largest one, experienced a decrease in number (Table 18). Classes of farms higher than 30 cows, which were increasing until 1984, also experienced a decrease after implementation of the quota program (2.3).

It is surprising to find that the number of farms over 50 cows continued to increase after 1984. The rule prohibiting the development of farm producing more than 200,000 kg/year should have impeded the growth of this class. There is no explanation other than merging of more than one operation, or purchase of land to explain such a phenomenon. In terms of percentage, it is clear that classes of herd under 20 cows have considerably decreased, and herds over 20 cows have grown subsequently.

The same analysis can be done for the number of cows, but the trend is more accentuated (Table 19). Cows from herd of more than 40 cows represented only 15% of all cows in 1979. In 1989 they represented more than 30%. Cows of herd 30-40 represent now more than 20% of total herd. These two classes represented less than 30% in 1989. They represent almost 55% in 1989. It is to be noted that the introduction of quotas did not really change the general trend of the evolution. It probably amplified it. For herds of 20-30 cows, the decreasing trend was inverted after introduction of quotas. But the same decreasing trend resumes as of 1989.

Introduction of quotas, and cessation schemes confirmed the concentration of dairy cows that started well before its implementation. Compared to other major dairy countries in the EEC, it can be assumed that there is even more possible concentration in the activity. The social role of dairy production in some regions

supported by the Government would probably act as a protection for medium size dairy operations. Some politicians are very concerned about desertification and rural exodus. Alternatives for agricultural activities are very limited in mountain regions and EEC programs have been implemented to develop profitable economy, some taking advantage of dairy production. Since quota are not geographically mobile, it is to anticipate that mountain agriculture relying heavily on dairy production would still play an important role in political decisions and comparative weight of medium size herds.

3.3.3. Evolution of Profit of Dairy Operation.

Data used from the EEC are not corrected for inflation.

Data available from an EEC study, shows that from 1983 to 1988, the income per farm has increased 21% (Table 20). Data for the same period for income per AWU (Agricultural Work Unit) is not available. But the increase between 1983 and 1987 is leveled at 12%. This percentage is higher than the increase of income per farm during the same period. Employment is very low in dairy farms in France, and the income raise is essentially provided by economy of scale and improvement of competitiveness. Dairying in output has been increasing during the same period.

Table 20 : Income and Milk Price of Dairy Farms in France 1983-88.

	1983/84	1984/85	1985/86	1986/87	1987/88
Farms Represented	153,218	146,822	144,131	146,116	142,988
Sample Farms	1,472	1,445	1,389	1,374	1,335
Income/Farm (ECU) (1)	14,677	15,343	16,205	16,068	19,459
Income/AWU (ECU) (2)	6,132	6,423	6,941	6,981	
Total Output/AWU (ECU)	27,489	29,528	31,755	32,293	34,640
- % Dairying in output	62.6	62.8	64.0	66.0	64.7
- % Beef and Veal in output	22.2	20.4	20.2	19.2	19.0
Milk Price (ECU/100 kg)	24.6	25.4	26.9	27.5	25.4

(1) Income/Farm: Farm net value added per farm. Profit after deduction of depreciation

(2) Income/AWU: Family farm income per AWU. Profit after deduction of rent, salaries, and interest paid, per AWU.

Source : FADN

Table 21 shows the link between size of herd and revenue, both in terms of total revenue per farm, and revenue per work unit. The same table shows an increase of dairying revenue in total revenue of dairy farms as size of herd increases. This confirms the fact that an increased size of herd is linked with higher specialization.

A policy that favors production concentration and higher specialization, increases risk for producers at the same time. The Community intervention, and a social policy implemented by Governments could limit this to an acceptable level.

Figure 14 shows that until 1987, the increase of income remained under the input and output curve. The increase in value of output in 1986-87, resolved in a higher

Table 21 : Income and Milk Price of Dairy Farms in France, by Size of Herd 1986/87.

	1-9	10-19	20-29	30-49	50-99	Total
Farms Represented	3,620	41,498	44,935	47,613	8,403	146,116
Sample Farms	19	279	459	509	107	1,374
% of all Type 41 Farms	2.5	28.4	30.8	32.6	5.8	100.0
Income/Farm (ECU) (1)	4,455	7,991	14,454	22,447	33,219	16,068
Income/AWU (ECU) (2)	2,267	4,143	6,597	8,861	10,692	6,981
Total Output/AWU (ECU)	11,130	17,924	29,849	41,775	52,348	32,293
- % Dairying in output	44.4	62.4	66.0	67.2	66.9	66.0
- % Beef and Veal in output	16.8	21.2	18.5	18.7	20.5	19.2
Milk Price (ECU/100 kg)	27.3	27.6	27.4	27.5	27.6	27.5

(1) Income/Farm: Farm net value added per farm. Profit after deduction of depreciation

(2) Income/AWU: Family farm income per AWU. Profit after deduction of rent, salaries, and interest paid, per AWU.

Source : FADN

income raise. It would be really interesting to have the same data concerning 1989 and 1990, and see if this trend has been confirmed.

Figure 14 : Trend in Value of Input, Output and Income on Dairy Farms in France, 1983-88 (100 = 1983-84).

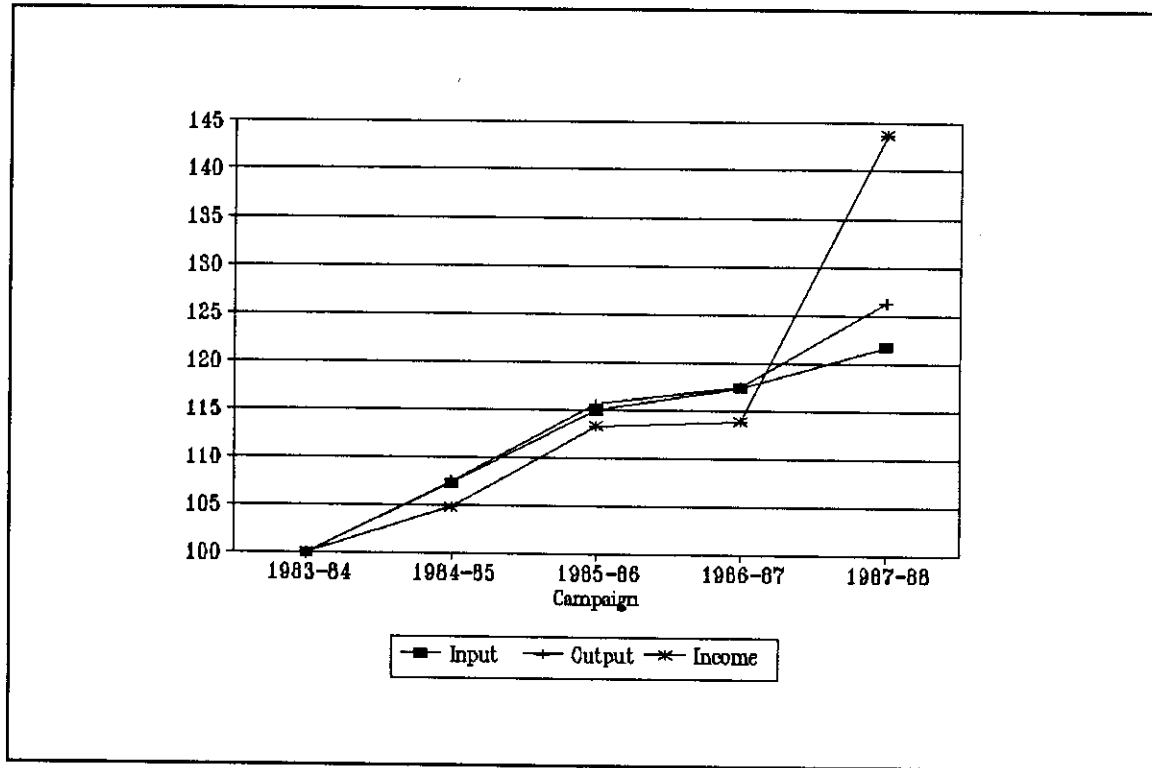
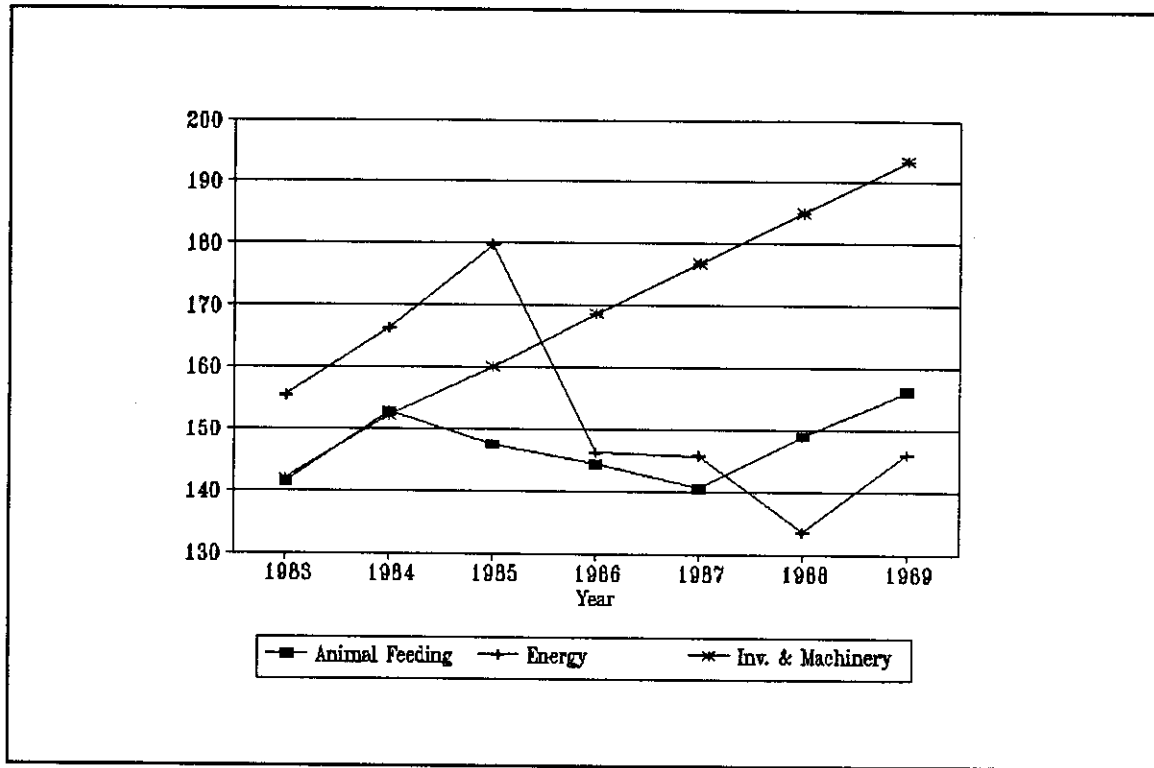


Figure 15 shows evolution of price index for animal production. Price of energy have been very variable during the past 7 years. Agricultural production enjoy reduced rate taxes on energy. Animal feeding decreased from 1984 to 1987, but increased again in 1988 and 1989. Animal feeding in dairy production is an important part of input costs. Recently, the community announced a 35% cereals target price decrease. It is not very clear if this announcement was done with a political objective in order to force member countries to take strong measures to limit production, or if the price will really decrease. If this is the case, dairy producers would enjoy improved conditions for their revenue in forthcoming years.

Figure 15 : Trend in Price Index for Animal Feeding, Energy, Investments and Machinery in France 1983-89 (100=1980).

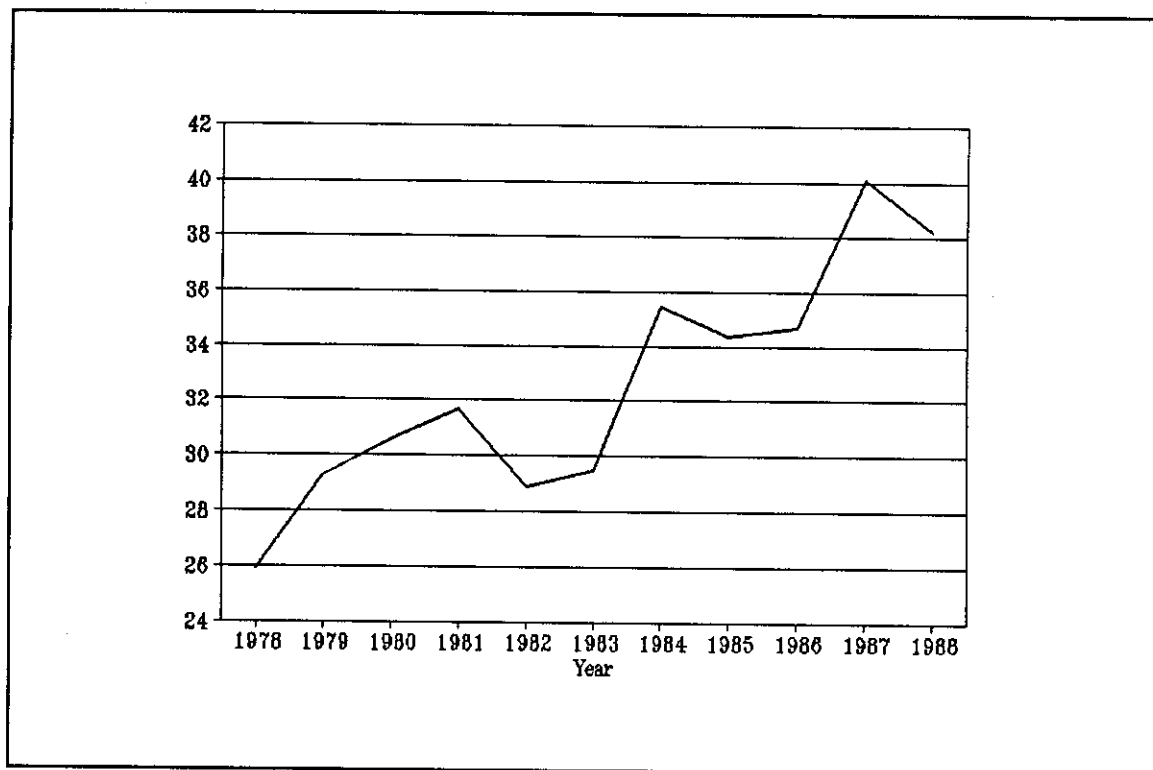


As beef and veal represents more than 20% of revenue of dairy producers, price of this products play an important role for profitability of dairy farms. The price of beef has been importantly affected by the implementation of the quota programs. Slaughtering of cows followed quotas reductions.

Table 22 : Trend in Market Price of Beef Meat in France 1980-90 (ECU/100 kg).

Year	1980	1986	1987	1988	1989
Beef	141.075	156.132	146.375	153.119	162.570
Veal	195.022	243.716	235.648	263.738	295.564

Source : EC Commission.

Figure 16 : Ratio of Cows Slaughtered over Total Cows in France 1978-88.

There is an intimate link between the quota system and the cattle and beef subsector, and in particular cattle prices. Table 22 gives the price evolution for the different categories of cattle. The abundant supply of beef, due to increased

slaughtering since 1983/1984, resulted in low beef prices. The beef production profitability was much reduced in 1987/88 as a result of a sharp slaughtering increase following a tightening of the quota regulations and the introduction of a modified intervention system on the beef market in April 1987. During the course of the year 1988, prices again improved because of reduced supplies coming onto the market. Price of heifers shows almost the same pattern.

Figure 16 shows a peak for cows slaughtering following the implementation of quotas in 1984, and the quota reduction of 1987.

From 1985 on, veal shows a clear trend to higher prices as the number of cows decreases. The shortage of calves is reflected in the fast increasing prices of calves of a few days old.

3.3.4. Technical Progress of Dairy Operations.

Restructuring of the dairy sector in favor of increased sized farms led to efficiency improvement through scale economy and rapid adoption of cost saving technology permitting least cost production and marketing practices.

No direct information is available concerning this issue, but indicators of technical progress can be interpreted.

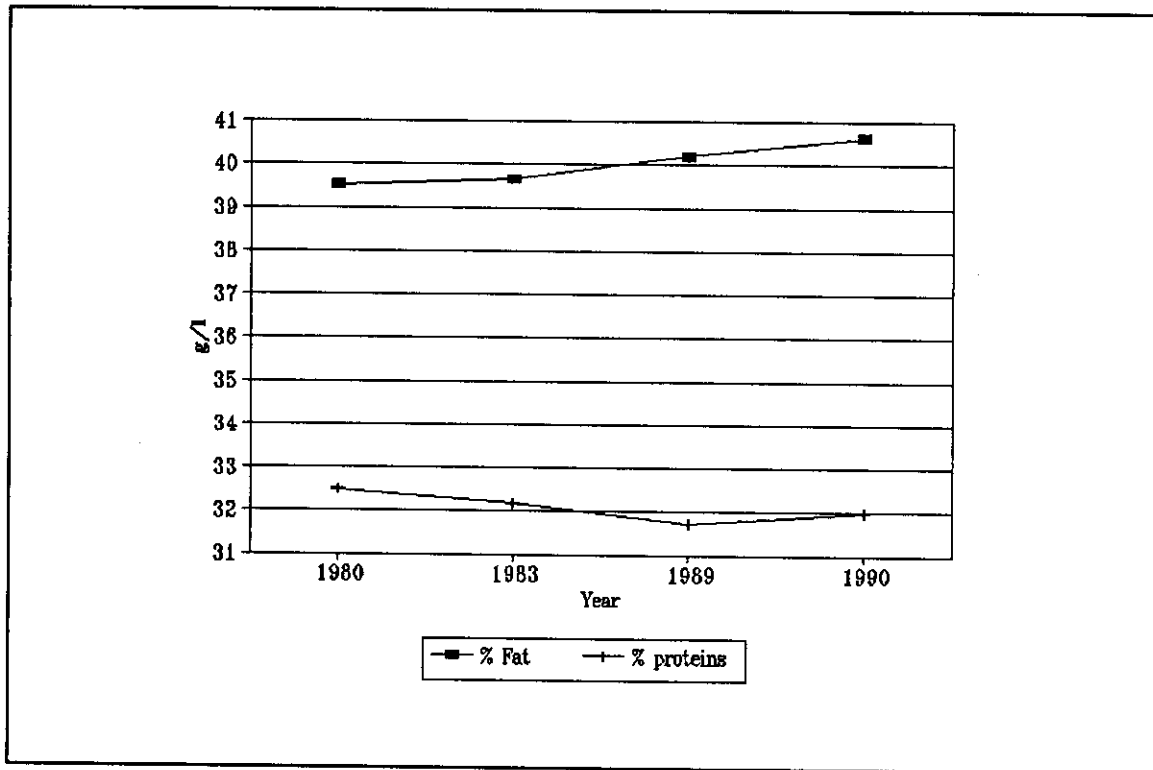
Table 23 : Production Performance of Dairy Cows in France 1980-89 (kg of milk/cow).

Year	1980	1985	1986	1987	1988	1989
Production per cow	3605	4344	4315	4269	4905	4967
Index 100 in 1980	100.0	120.5	119.7	118.4	136.1	137.8

Source : Eurostat

The most important indicator is probably the dairy cow production performance. In 1980, the mean for France was 3,605 kg/cow per lactation of standardized milk (3.6 g of fat/kg of milk, and 3.2 g proteins/kg milk). In 1985, this average had increased 20%. During 3 years following the first implementation of dairy quotas, this average has been decreasing. This decrease can be explained by the strategy of dairy producers. At the beginning of the quota program, producers did not believe that the Community would enforce their policy and ask producers to pay the superlevy. Dairy producers, did not adjust the size of their herd as much as they should have. Consequently, they had to shorten production period of cows, or reduce feed intake to adjust their production to their quota. In 1988, the gain was substantial and in 1989 the increase was confirmed (2.10).

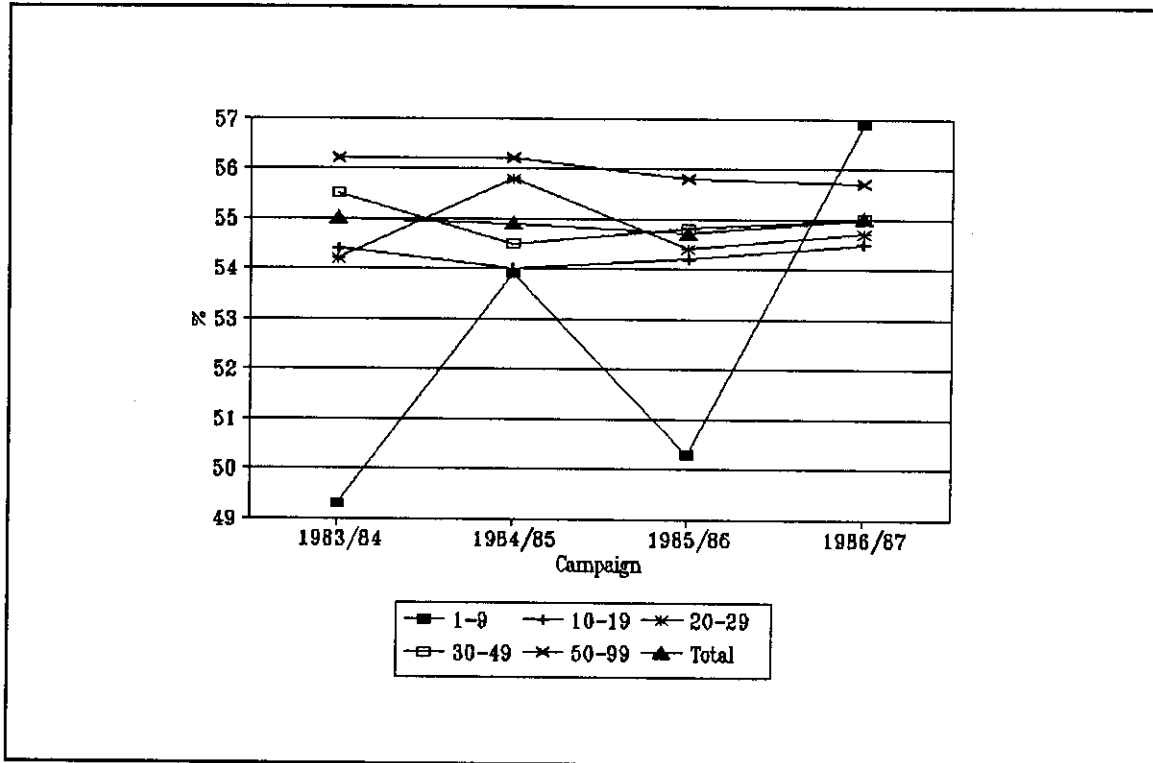
Figure 17 : Evolution of Composition of Milk in France 1980-90 (g/l).



During the same time, the fat content of milk has been increasing sharply. This process was initiated before implementation of the quota program. Some producers found that an increase in milk dry component content could be a way to improve their revenue, when production level was limited by quotas.

Unfortunately, the Community applied a ratio to compensate for fat content in milk. During the same period, protein contents of milk decreased. In 1990, it started to increase again. The reason is not very clear, but a Community program aimed at improving milk quality, both bacteriological quality and composition, convinced processing plants to introduce a component favoring protein percentage in milk price setting.

Figure 18 : Purchased Inputs in % of Total Output by Size of Herd in France 1983-87.



Another indicator of technical improvement of dairy operation is the use of inputs, or intermediate consumption. Data on hand show the trend only until 1987. For total farms, after a decrease in 1984 and 1985, the share of intermediate consumption started to increase in 1987. This data confirms the general strategy of farmers to reduce production of their cows by the end of lactation or to decrease the intake of feedstuffs.

3.4. Secondary Effects.

3.4.1. Quota a Barrier to Entry.

As a regulation system, the implementation of the quotas did not have only an effect on the dairy market but had also a great influence on the value of capital of the dairy operations and characterize this activity in comparison to other agricultural activities.

The official statute of quota is not really clear. The general rule says that it is attached to land. But if a piece of land is sold, the national reserve will take 40% of the quota to ensure that no land is just sold to acquire quotas.

The other mechanism that contradicts the general rule is the fact that the Commission can decide to reduce, freeze or suspend quotas without advice from the owner. In fact it can be argued that there is no property right in France for quotas. The only quota owner is the European Commission.

On the other hand, it is quite obvious that quotas have gained value through termination programs. The most significant sign in favor of this theory is that, as more and more quotas are bought through years, Government is compelled to increase the premium paid for a quota buy-out.

In Canada, where quotas have been implemented for a longer time and supply of quota sold by the Marketing Board were insufficient to please demand, a free market of quotas has been authorized (4.1).

In France, the method for allocation of freed quotas through distribution of the outgoers quota through its former processing plant, increased pressure in regions where production was in expansion. The pressure on quotas free market is higher in some region than in other.

Nevertheless, there is a consensus within producers unions to maintain the system of allocation as it is. The Commission and the Government are pleased with this system too, as it helps to maintain the upper boundary of 200,000 liter production a year as the limit for growth of an operation. In regions where this class of producers is higher, cessation schemes are less attractive.

Both aspects, regional mobility and non-capitalization of quotas, play an important role in keeping pressure over the entire production sector to avoid excessive demand for growth.

If quotas were marketable, and regional mobility was accepted, it could be argued that quotas could be marketed at the European level. This would favor the regions that have a competitive advantage in producing milk, or which market power is higher for structural reason. This is in complete opposition with options chosen for implementation of the quota system.

Other experiences argue in favor of a market for quotas in the long term, for quota become a mean of production. As quota system are officially intended to be a temporary regulatory measure, it appears that it wouldn't be efficient to set a temporary market value for a good that has a limited existence in time. Does that mean that countries that opted for quota market in the EEC anticipated that the quota system would be at least a medium term measure, if not a long term regulation? The price of quotas is greatly influenced by the length of quota duration that is anticipated. A study showed that some transaction on land with quota attached in 1986 in North of France had an additional value of 2 to 4 times the target price of milk production allowed with quotas (3.7). This is congruent with the first period of quotas that was planned to end in 1989.

3.4.2. Subsidizing of Dairy Sector and Impact on Other Sectors.

There has always been a debate in France, but probably a stronger debate in other EEC member country on the dairy sector policy cost. In 1983, the dairy sector support cost represented 60% of the total financial cost for CAP.

The perception of the french public is that the Government is maintaining artificially a sector of unprofitable dairy operation, as if surviving of farmers would be a national political issue for policy makers. The same perception is not

very clear for tax-payers and consumers of the final benefit of subsidies and expenses for restructuring.

As more than 80% of net Community expenditure for support to dairy sector is placed on consumption subsidies, it can be argued that the main profit of the policy goes to final consumers. By supplying the market with subsidized dairy products, the Community is favoring consumption of dairy products against alternative products.

Subsidizing milk powder for use as ingredient of animal feeding is of great importance.

One example is always given by farmers : in some regions, dairy farmers give subsidized milk powder to calves, while using the cow milk production for cheese production. In this case, there is an indirect subsidy for both veal meat and cheese.

3.4.3. Are Third Countries Taking Advantage of the System ?

Europe counts for 30% of the total World dairy production. At the same time, it is one of the largest market for dairy production. An overall 10% supply reduction in Europe has an impact on the total dairy market. France alone counts for 8%.

By releasing subsidized milk powder and butter on the international market through the restitution mechanism, France and other European countries were keeping the international price low. At the same time, selling on the European market, subsidized products for selected use, was increasing artificially demand.

By reducing the quantities produced in Europe, and reducing subsidized exports, the Community is leaving an empty space for supply by other producers. It is true, that this demand is for products at subsidized price. But, major dairy countries in the World, subsidize exports for selected markets, such as USSR.

By restructuring the dairy production sector, Europe does not allow itself to be able to supply new demands that could be generated in Eastern Europe for instance.

To the other hand, a lesser supply from Europe could lead to higher international prices, which tend to increase revenue for dairy producers in Europe and other countries.

After a deep crises in 1985, and 1986, World prices for dairy products started to increase for three consecutive years. In 1990, price started to decrease again. The amplitude of variation of international prices of dairy products is very high. The price for milk powder and butter has more than doubled between 1986 and 1989.

The international price of these commodities are very sensitive to supply.

I do not have any formal explanation for this sharp increase of international prices during this period, but the simultaneity occurring with the implementation of the quota program is striking.

CONCLUSION

Evaluation of the introduction of the quota system into the regulation framework for the dairy sector can't go beyond the expected effects of such a policy.

The stated objectives were multiple :

- reach an acceptable equilibrium in the dairy market,
- guarantee a reasonable revenue for producers,
- speed-up restructuring of the dairy farmers sector without imposing an unacceptable social cost to producers,
- improve competitiveness of dairy operation,

At the same time, social and political goals imposed further constraints on the system by defining additional objectives including :

- keep an homogenous regional repartition of production,
- insure occupation of less favored area where few alternatives for regional development are offered,
- support young dairy farmers,
- improve quality of milk marketed,
- explore new opportunities for dairy products consumption.

The community implemented a complete framework including :

Supply management : - limitation of production through implementation of a quota system,
 - buy-out of quotas from producers willing to cease production, and distribution of those quotas to producers starting or developing existing production,
 - favoring more extensive farming systems through implementation of the grazing premium.

Demand Management : - Price support of dairy products through subsidies for selected categories of dairy products consumption,
 - Price support of dairy products through buy-out of surplus production and storage,
 - Tightening the rules for storage of production surplus to avoid abuse of the system.

Since introduction of quotas production decreased 8.2%. This number has to be compared to the general trend of production before 1984. The superlevy imposed on above quota production was very effective to avoid producers to over-produce. The amount of the superlevy to be paid is higher than the price the producers would get from the processing plant on excess production marketed. The market

price has always been inferior to the target price. Arrangements to compensate excess production from certain producers by above production of others, did not encourage excess production. In all cases, marginal cost of milk (penalty included) was higher than marginal revenue.

The assessment of restructuring efficiency of the program is uneasy since there are no estimates to state if cessation programs have been more effective than the market would have been by itself. Until 1989, 2,969,790 tons of milk quotas have been bought-out. This represents 12% of the original quotas quantities for France in 1984. Out of this quantity, only 83% has been given back to producers for development or new comers. The rest was suspended by the Commission. For a period of 5 years, 10% of the production has been reallocated to existing or new producers. During the same time, the average size of herd increased by 4 cows, and average production per cow increased by 15%.

In terms of revenue, data available do not give a clear picture of the situation. At least, it can be argued that the general revenue for the sector did not decrease, and in fact, the trend in 1989 shows an improvement of the situation. At the individual level, we could claim that the revenue of producers who had the opportunity to increase the size of their herd has improved.

In terms of market equilibrium, the situation has recovered. The community did not have to remove excess production from the market. Nevertheless, subsidies continue to be needed to clear the market and guarantee a higher price to producers. Consumers' subsidies, on internal market, both for human and animal consumption have decreased significantly in the meantime.

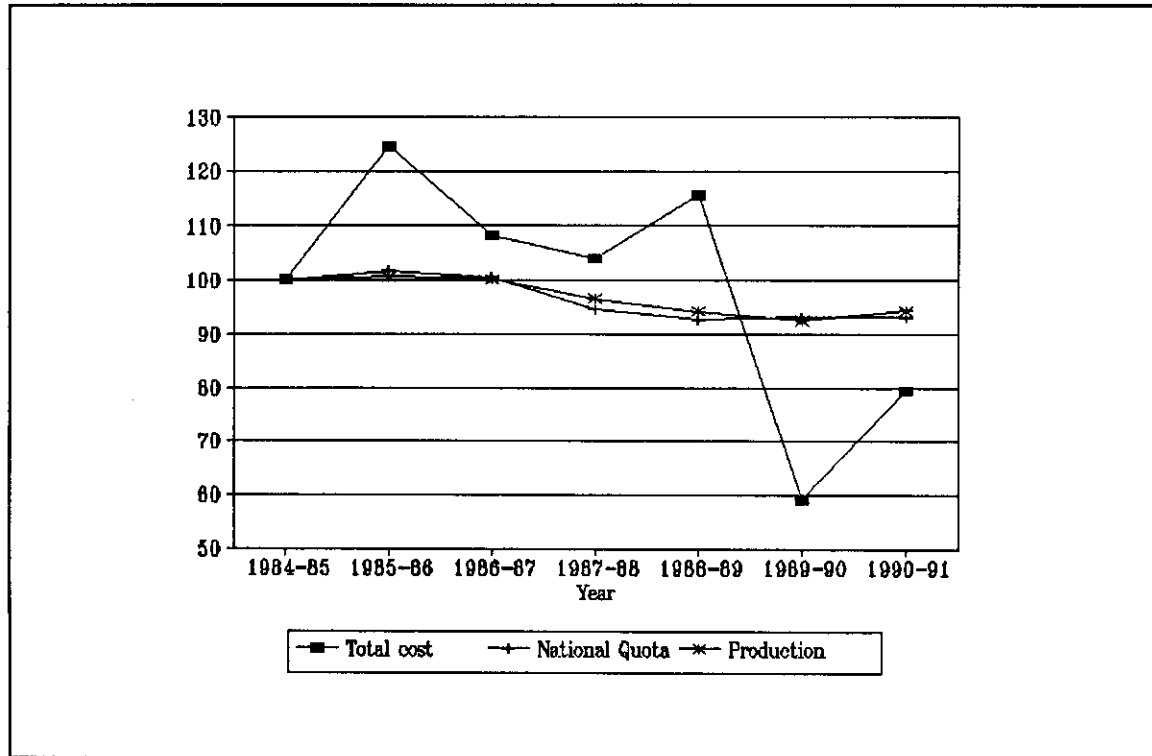
The special dispositions for implementation of the quota program fulfilled their goal in reducing rural exodus and keeping dairy production in some less favored regions.

In the short run, it can be argued that the whole framework reached its goal, at a lesser cost than the general trend for the sector showed during the preceding period.

But at the same time, it appears clearly that changes in structure and behavior of the farmers, are not radical enough to expect market equilibrium and revenue guaranty for producers without Government or Community regulations and subsidies.

Quotas, appear to be a tool to lesser the cost of market support and farmers assistance in a country where natural market forces were distorted by previous regulations.

Figure 19: Evolution of the Cost of the Dairy Policy, Quotas and Dairy Production in France 1984-91 (100 = 1984-85)



France appeared to be very responsive to the various aspects of the regulations. Cessation schemes have been very effective, the actual active participation of Farmers' Unions improved efficiency of the framework through a better understanding and adaptation of measures, and adjustments needed to respond to particular situations in selected regions or social environment.

Benefit of the framework extended to other sectors, like beef and veal production. The processing industry has been effective in tuning itself to the new organization, and taking advantage of certain aspects of the policy. During this period, it proved

to be active in seeking new outlets for dairy products, and inventive to offer consumers new products of greater value.

If supply management continues to be needed in the long term, like in Canada, France would not be able to avoid any longer the question of a free market for quotas. Such a decision would lead to a more liberal conception of dairy sector restructuring, which would have great consequences at the producer level. If quotas continue to be attached to land, the issue of quota capitalization in dairy operation will be raised, implying an increased value of land in regions where alternatives for farming are limited.

This would have as a consequence to stress economical development, and increase the cost of programs aimed at keeping activities in less favored regions.

At the same time, no technical reason would oppose a restraint on a European market for dairy quotas.

More radical decisions in terms of dairy market organization and support would require a stronger cohesion among community members for political decisions, that would lead to more integration of members' countries dairy production.

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Glossary

Green Europe	Common word to describe the European Community agricultural policy.
CAP	Community Agricultural Policy.
European Community	Group of 12 European Countries reunited for common economical policy.
EEC	European Economic Community, Group of 12 European Countries reunited for common economical policy.
ECU	European Currency Unit, basket of moneys of member countries of the EEC.
Green ECU	ECU which value differs for each agricultural commodities.
MCA	Monetary Compensatory Amount. Regulation implemented to compensate for exchange rate distortions for trade of agricultural products within the Community.
Restitution	Subsidies for exports of dairy products.
Ministers' Council	Council of Ministers of members' countries. Political assembly which decides the policy of the Community in areas for which the Community is competent.
European Commission	Administrative organization in charge of the implementation of the Community policy.
Dairy Quotas	European policy for reduction of the dairy production. Individual quantity of milk that can be marketed by a farmer.
Buyers quota	Quota for a dairy producer delivering his production to a processing plant.
Direct Sales Quotas	Quota for a dairy producer marketing its production by himself.
Quota Reduction	Definitive reduction of quotas for all producers.

Quota Freeze	Temporary reduction of quotas for all producers (medium term measure).
Quota Suspension	Temporary reduction of quotas for all producers (short term measure).
Co-responsibility levy	Amount paid by all dairy producers on quantities of milk marketed as a contribution to the financing of the dairy production sector restructuring.
Superlevy	Amount paid by dairy farmers marketing more milk than allowed by their quotas. Equals 100% of the target price for the excess production.
Cessation Schemes	Program of the Community buying quotas from dairy producers willing to cease dairy production.
Premium	Refers to cessation Schemes. Amount received by dairy producers who enroll in a cessation scheme program.
Less Favored Regions	Regions that enjoy advantages in terms of dairy quotas due to natural or economical conditions.
Mountain Areas	Usually declared as less Favored Regions.
FF	French Francs.
cts	Centime. One cent of a Franc.
Target Price	Price for commodities fixed by the Minister's Council used to decide intervention on the market of dairy products and storage of surplus.
Intermediate Consumption	Consumption of mean of production bought out of the farm.
Suckling Cows	Cows for beef production.
Standardized Milk	Official composition of milk. 32 g/l of proteins, and 36/g/l of fat.

APPENDIX A

Conceptual Framework

The microeconomic of the programs implemented for the dairy sector management can be expressed through graph of market equilibrium.

Demand management.

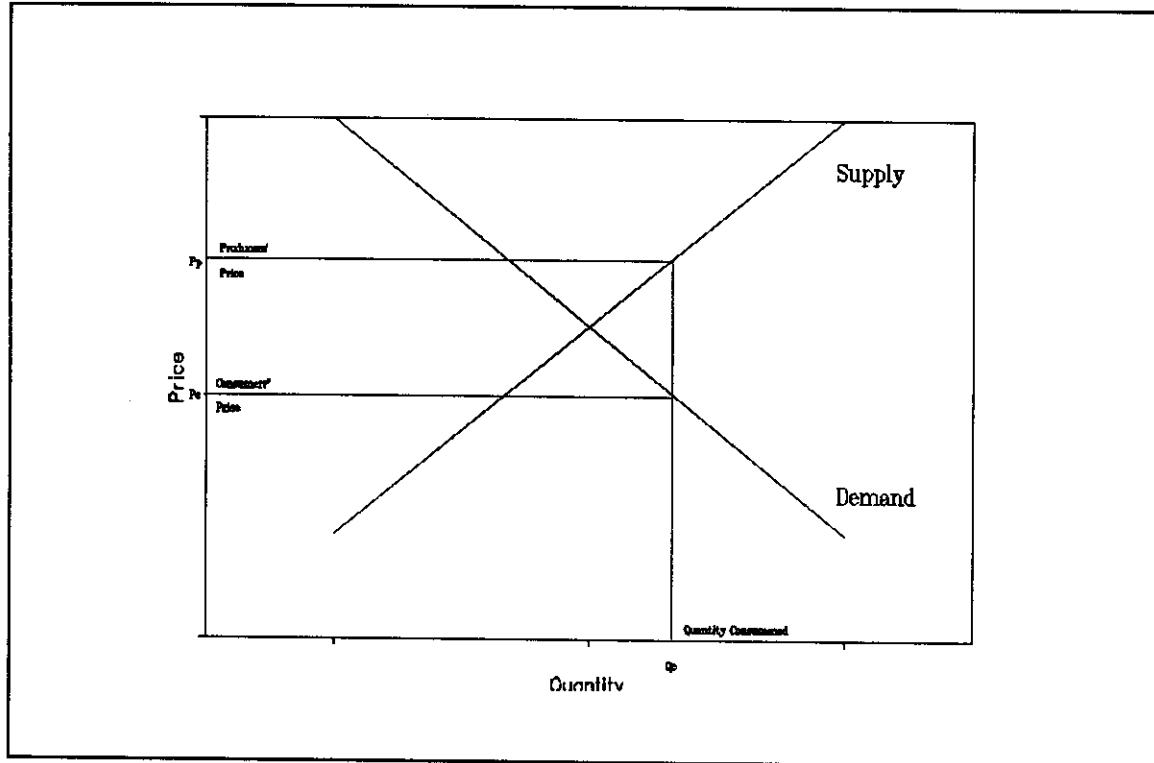
I will split first the representation of the subsidies programs for butter and milk powder, and the storage program for those dairy products. I will then present graphically the effect of storage and subsidies on the same graph.

Subsidies for butter and milk powder.

Under this program, industrial consumers of dairy products will buy dairy products at P_c . Producers of dairy products will receive P_p for their sales. The Community will pay as a subsidy, $P_p - P_c$ for each unit sold. (Figure 20)

The amount of product consumed, will be Q_c .

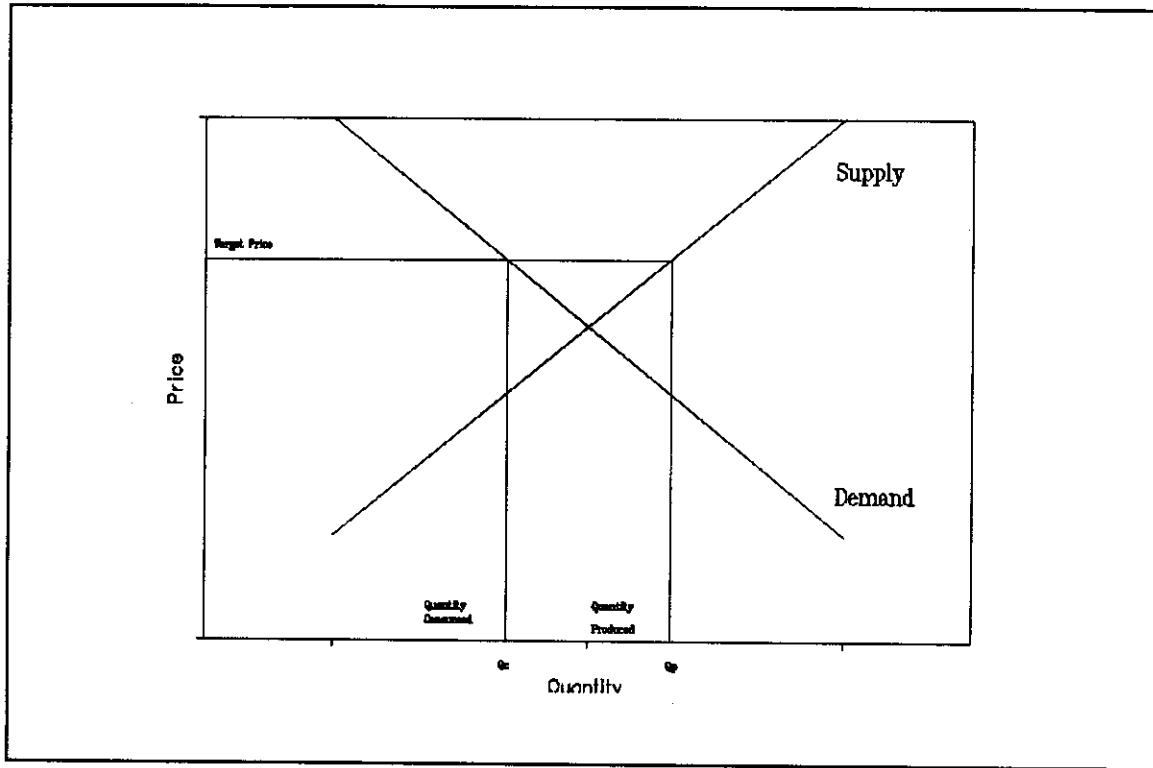
Figure 20 : Supply and Demand of the Butter and Milk Powder Market with Consumption Subsidies



Storage of surplus production of butter and Milk Powder

In order to maintain market price above target price, the Community stores excess production. The quantity sold on the market is Q_c . The quantity bought by the Community is $Q_p - Q_c$. The market price is at least equal to target price (Figure 21).

Figure 21 : Supply and Demand on the Milk Powder and Butter Market with Public Storage Program.



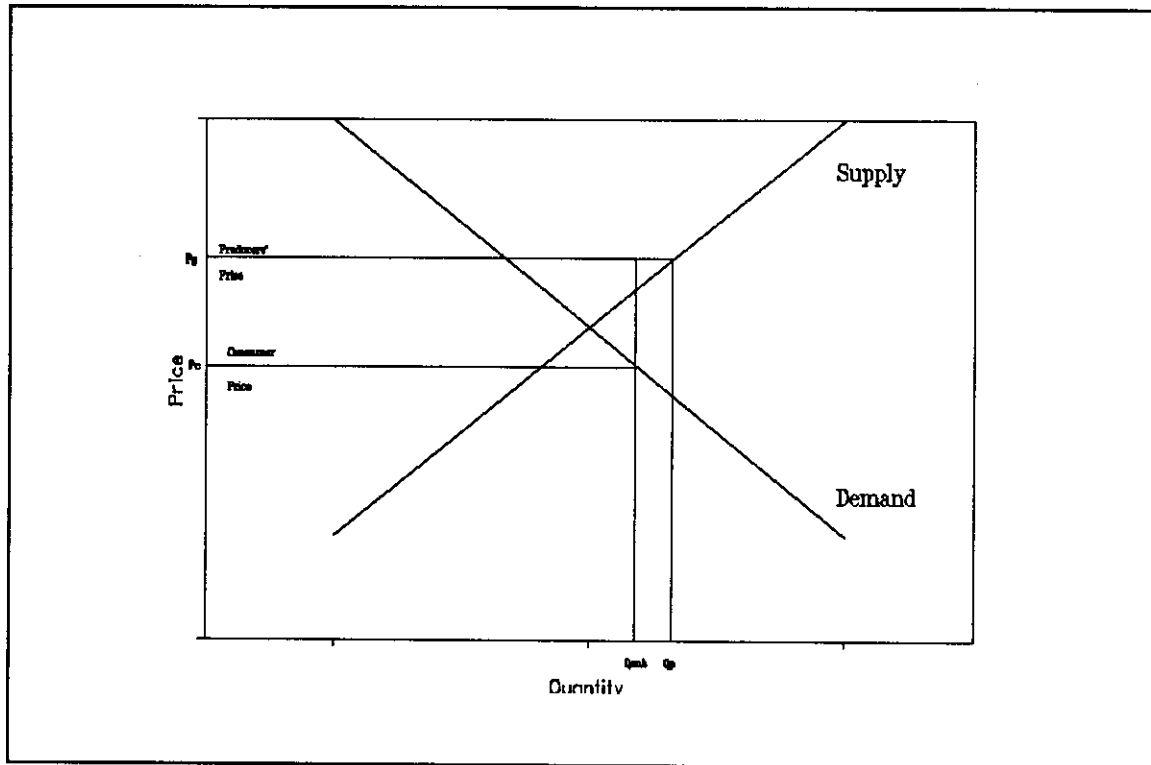
Subsidies and storage together.

The logic of the program is that if amounts of subsidized dairy products are not sufficient to maintain market price above target price, additional amount produced will be bought out by the Community to avoid a further market price decrease.

The same effect on the market could be achieved through higher unit subsidies.

In this case, the quantities subsidized are Q_{sub} . The quantity stored are $Q_p - Q_{sub}$ (Figure 22).

Figure 22 : Supply and Demand on the Milk Powder and Butter Market with Consumption Subsidies and Public Storage of Surplus.



Total Consumption of Butter and Milk Powder.

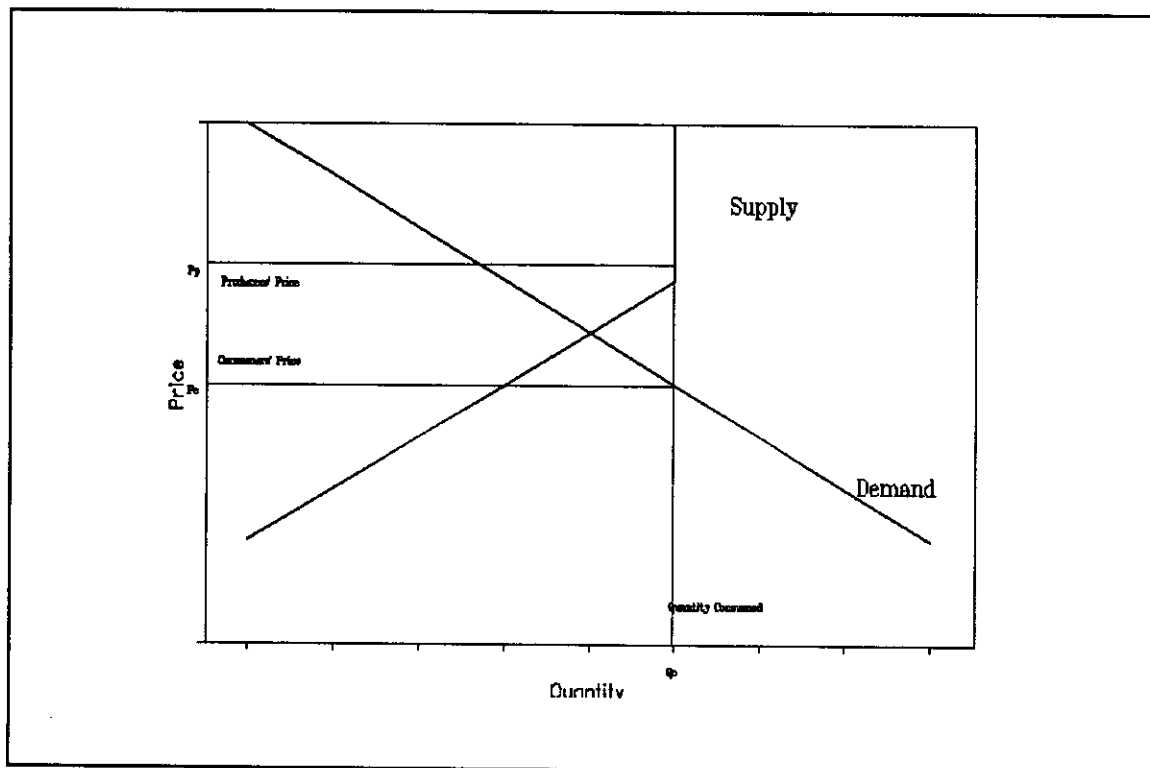
If the household consumption is aggregated to the industrial consumption, we can assume that the average price for the total consumption of dairy products is in between, P_c and P_p (Figure 22).

The Quota Program

The Quota program has as effect to limit the production to a given level administratively determined. The quantity for quotas has been set at a level superior to the equilibrium point.

Quantity produced have allowed to suppress storage of surplus production, and reduction of subsidies needed. Every year, quotas are reduced and quantity produced come closer to the equilibrium point (Figure 23).

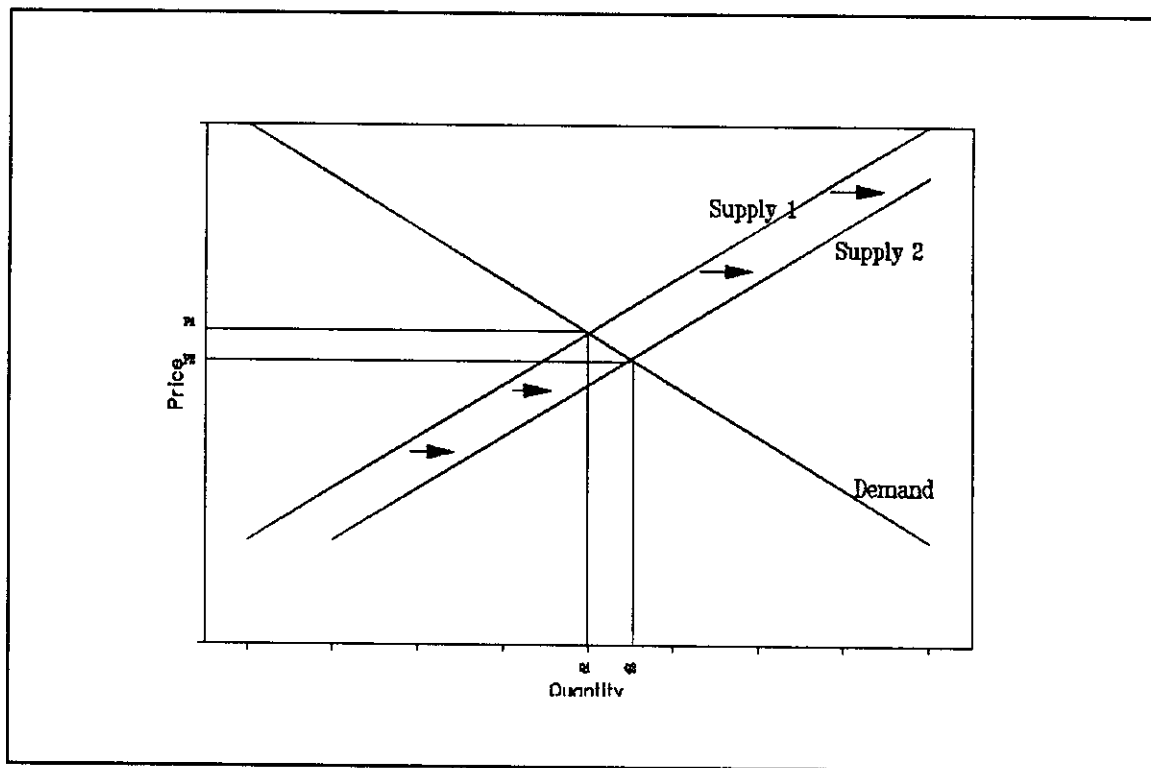
Figure 23 : Supply and Demand on the Dairy Market with the Production Quota Program.



Effect of the Cessation Schemes.

Cessation Schemes have had as effect to buy quotas from less efficient small dairy operations in order to allow for efficiency improvement for producers remaining in the business through economy of scale and adoption of more efficient technic for dairy production. The result is a shift of the supply curve to the right increasing quantity consumed at the equilibrium point. The consequence is also a reduced need for subsidies for milk producers (Figure 24).

Figure 24 : Effect of the Cessation Schemes for the Dairy Industry on Supply Curve.



APPENDIX B

Table 24 : Money Conversion for French Francs, US Dollars and European ECU.

		1980	1984	1985	1986	1987	1988	1989
FFR/ECU	1000 FFR = ... ECU	170.95	145.53	147.17	147.06	144.32	142.12	142.37
US \$/ECU	1000 USD = ... ECU	718.22	1267.38	1310.46	1016.09	866.22	845.68	907.65
FFR/US \$	1000 FFR = ... US \$	238.02	114.82	112.30	144.74	166.61	168.05	156.86

Table 25 : Evolution of Number of Dairy Farms and Dairy Cows in France 1984-90 (%).

Period	86/85	88/87	89/88	90/89	91/90	89/84	91/84
Rate of decrease of number of dairy farms	-10.3	-9.1	-8.1			-37.2	
Rate of decrease of Number of dairy cows	-4.0	-8.9	-4.7	-1.6	-3.9	-29.1	-26.7

Source : S.C.E.E.S.

Note : Survey performed during December of preceding year.

Table 26 : Evolution of Farm Structure According to Age of Farmer in France 1981-89 (Thousands)

Age of Farmer	Farms			Dairy Cows		
	1981 Number	1985 Number	1989 Number	1981 Number	1985 Number	1989 Number
< 35	43.8	42.4	33.3	911.2	1096.0	910.0
35-39	27.5	30.8	24.7	550.2	752.6	662.7
40-44	40.9	27.5	25.9	783.5	621.0	636.3
45-49	75.0	48.7	28.0	1284.4	1026.4	636.8
50-54	90.9	74.3	50.3	1409.1	1421.8	1031.6
55-56	100.0	75.4	58.8	1370.8	1160.4	1102.9
60-64	53.0	44.8	30.2	577.0	540.4	459.7
65-69	26.1	9.5	8.2	198.0	68.8	79.5
> 70	24.8	13.8	8.3	132.2	76.3	54.1
Total	482.0	367.2	267.7	7216.4	6763.7	5573.6

Source :S.C.E.E.S.

Table 27 : Evolution of Composition of Milk in France 1980-90.

Year	1980	1983	1989	1990
% Fat (g/l)	39.52	39.66	40.19	40.63
% Proteins (g/l)	32.48	32.16	31.70	31.98

Source : S.C.E.E.S.

Table 28 : Evolution of Delivery of Milk in France 1983-90 (Million Liters)

Month/Year	1983	1985	1986	1987	1988	1989	1990
January	1,965	1,857	2,022	1,904	1,844	1,888	1,974
February	1,890	1,817	1,903	1,812	1,807	1,763	1,872
March	2,308	2,196	2,248	2,125	2,012	1,986	2,220
April	2,419	2,304	2,341	2,305	2,249	2,246	2,343
May	2,653	2,618	2,655	2,623	2,431	2,443	2,451
June	2,464	2,394	2,472	2,401	2,196	2,167	2,147
July	2,232	2,228	2,252	2,156	2,055	1,912	1,939
August	1,975	2,007	1,932	1,942	1,837	1,668	1,654
September	1,790	1,793	1,787	1,729	1,666	1,554	1,551
October	1,914	1,829	1,908	1,754	1,742	1,727	1,728
November	1,843	1,759	1,808	1,660	1,728	1,749	1,725
December	1,894	1,914	1,912	1,770	1,833	1,882	1,837
Total	25,347	24,717	25,240	24,181	23,400	22,965	23,441

Source : S.C.E.E.S.

Table 29 : Evolution of Target Price of Dairy Products in France 1985-91 (FF and ECU).

	Milk		Superlevy	Butter		Milk Powder	
	FF/100 kg	ECU/100 kg		FF/100kg	ECU/100 kg	FF/100kg	ECU/100 kg
5/23/83-4/1/84				2345.41	357.86	980.74	149.64
4/2/84-5/26/85				2218.06	319.7	1150.86	165.88
5/27/85-5/11/86	197.83	27.84	2	2225.57	313.2	1236.71	174.04
5/12/86-6/30/87	203.58	27.84	2	2290.27	313.2	1272.66	174.04
7/1/87-6/30/88	208.13	27.84	2	2341.44	313.2	1301.1	174.04
7/1/88-12/31/88	208.13	27.84	2	2341.44	313.2	1301.1	174.04
1/1/89-3/31/89	211.14	27.84	2	2375.36	313.2	1319.95	174.04
4/1/89-4/30/89	211.14	27.84	2	2327.89	306.94	1319.95	174.04
5/1/89-2/28/90	214.31	27.84	1.5	2315.52	300.8	1339.74	174.04
3/1/90-5/13/90	214.31	27.84	1.5	2257.63	293.28	1329.65	172.73
5/14/90-10/10/9	210.51	26.81	1.5	2298.86	292.78	1353.89	172.43
10/11/90-...	211.68	26.81	1.5	2311.68	292.78	1361.44	172.43

Source : C.E.E., C.N.I.E.L.

Table 30 : Premium for Milk Powder Denaturation in France 1985-91 (ECU/100 kg and 100=1985).

	Premium for Milk Powder Denaturation For Animal Feeding ECU/100kg	Premium for Casein Production ECU/100kg	Premium for Milk Powder Denaturation For Animal Feeding (100=1985)	Premium for Casein Production (100=1985)
6/1/85-6/1/86	568.47	60.76	100.00	100.00
6/2/86-6/30/87	585.00	68.01	102.83	110.66
7/1/87-9/30/87	598.07	69.53	104.95	112.61
10/1/87-3/31/88	598.07	66.16	104.95	108.16
4/1/88-6/5/88	598.07	66.16	104.95	108.16
6/6/88-6/19/88	523.31	63.17	91.37	103.82
6/20/88-9/30/88	523.31	55.25	91.37	90.03
10/1/88-12/31/88	485.93	55.25	83.01	90.03
1/1/89-4/30/89	492.97	50.43	84.68	79.52
5/1/89-6/5/89	500.36	51.19	86.39	81.30
6/6/89-5/13/90	461.87	51.19	76.92	81.30
5/14/90-9/28/90	470.32	52.14	79.13	83.47
9/29/90-10/4/90	470.32	62.34	79.13	102.53
10/5/90-10/10/90	549.63	62.34	96.57	102.53
10/11/90-...	552.69	62.69	97.14	103.08

Source : C.E.E.

Table 31 : Storage of Butter in France 1983-90 (Tons)

Years	Public	Under Convention	Private	Total
1983	147,561	24,737	17,425	189,723
1984	117,070	9,387	23,381	149,838
1985	83,950	20,186	17,573	121,709
1986	190,722	4,919	13,587	209,228
1987	119,785	14,128	15,154	149,067
1988	8,144	8,823	18,199	35,166
1989	1,264	11,922	22,077	35,263
1990	16,012	13,741	16,775	46,528

Source : ONILAIT

Table 32 : Storage of Milk Powder in France 1983-90 (Tons).

Years	Public	Private		Total
	Skimmed Milk	Skimmed Milk	Refatened Powder	
1983	28,857	19,895	8,198	56,950
1984	3,437	27,096	10,906	41,439
1985	3,833	43,493	11,223	58,549
1986	4,441	23,660	10,548	38,649
1987	0	33,181	10,150	43,331
1988	0	25,945	8,146	34,091
1989	0	43,040	7,819	50,849
1990	20,778	25,691	6,660	53,129

Source : ONILAIT

Table 33 : Evolution of Use of Milk in France 1983-89 (%).

Product/Year	1983	1985	1987	1988	1989
- Fluid Milk	8.5	9.0	8.5	8.9	8.9
- Concentrated Milk	1.2	1.0	0.8	1.0	1.0
- Milk Powder	3.7	4.6	5.6	6.2	6.0
- Butter	51.9	49.0	48.6	45.3	46.0
- Cheese	28.2	28.9	27.7	28.9	30.1
- Eadable Cream	5.0	5.8	6.2	6.8	7.0
- Fermented Milk, Fresh Dairy Desert	1.3	1.3	1.6	1.9	2.1

Source : S.C.E.E.S.

Table 34 : Ratio of Cows Slaughtered Over Total Cows in France 1978-88.

Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ratio	25.9	29.3	30.6	31.7	28.9	29.5	35.5	34.4	34.7	40.1	38.2

Source : C.E.E.

Table 35 : Monthly Slaughtering of Calves in France 1978-88 (Thousand Heads).

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1978	283.5	256.3	285.8	275.0	315.4	314.3	311.7	315.5	274.5	280.7	249.2	245.4
1979	287.4	269.4	285.8	291.7	317.1	302.3	338.2	319.4	269.4	281.2	241.6	250.7
1980	274.0	264.9	285.4	285.1	282.5	302.7	317.1	278.4	241.5	259.8	235.1	275.3
1981	218.9	214.1	246.7	261.1	258.9	298.7	290.4	261.8	242.4	246.4	243.4	264.2
1982	255.6	243.8	281.9	257.5	266.7	316.3	288.0	278.3	256.8	236.1	240.4	251.5
1983	276.8	244.9	283.7	256.6	293.5	287.3	273.3	284.5	257.7	256.4	235.1	249.0
1984	286.2	257.9	272.8	279.0	298.5	283.7	290.6	288.2	248.3	296.4	264.8	271.7
1985	272.9	256.9	259.5	258.5	259.7	249.0	292.5	266.8	251.9	263.0	217.9	245.5
1986	254.7	230.6	245.2	281.7	261.2	266.3	282.9	258.3	277.1	249.6	213.6	257.2
1987	256.9	238.5	271.4	258.5	247.4	274.0	276.9	260.6	259.7	243.6	233.2	248.7
1988	239.8	255.7	256.6	213.3	237.8	227.7	224.1	244.6	233.3	220.0	196.5	195.6

Source : C.E.E. CRONOS

Table 36 : Monthly Slaughtering of Heifers in France 1978-88 (Thousand Heads).

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1978	65.7	56.8	63.4	59.2	59.1	57.7	58.6	63.4	62.7	67.3	64.9	60.8
1979	68.9	57.8	62.4	61.6	63.1	56.8	64.7	66.8	63.4	75.1	71.5	64.7
1980	68.4	60.2	64.8	65.9	59.3	61.2	67.2	62.4	69.7	72.5	66.0	71.3
1981	65.8	60.0	66.8	65.9	59.3	65.9	63.5	64.5	74.5	75.4	73.0	76.2
1982	65.6	58.0	69.8	61.3	56.7	64.2	59.7	64.0	66.4	65.5	69.3	64.5
1983	63.8	56.5	66.5	59.2	62.5	60.5	57.2	67.2	66.0	68.3	70.9	65.4
1984	69.8	64.1	68.9	67.8	66.6	62.6	68.5	75.3	73.3	82.8	81.1	74.2
1985	75.7	68.3	73.2	75.5	71.0	61.4	70.0	67.9	71.5	80.7	71.8	71.9
1986	75.5	65.6	68.4	75.8	66.5	62.4	69.6	66.9	77.0	77.4	71.8	81.4
1987	77.3	62.2	79.7	75.6	64.3	70.7	68.0	64.8	70.4	71.3	70.7	76.3
1988	65.7	63.9	72.8	61.6	61.3	59.3	59.7	62.9	62.2	62.1	67.7	62.1

Source : C.E.E. CRONOS

Table 37 : Monthly Slaughtering of Cows in France 1978-88 (Thousand Heads).

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1978	174.6	152.5	168.3	156.0	154.0	146.1	146.3	160.4	161.3	172.7	177.6	168.2
1979	193.8	171.8	188.0	176.5	179.9	165.6	179.0	182.2	169.3	203.7	198.2	175.7
1980	203.8	177.8	183.0	185.7	164.1	162.6	172.2	153.0	178.9	204.2	187.4	204.0
1981	198.2	175.8	194.0	191.1	165.2	184.5	175.2	162.5	190.0	195.0	196.5	205.1
1982	189.7	168.1	195.5	175.6	150.6	171.4	158.2	158.5	172.5	168.3	182.7	183.1
1983	177.0	164.8	188.4	166.7	173.5	172.0	156.0	177.6	183.3	180.7	193.0	187.8
1984	196.5	190.3	192.7	180.4	183.8	172.9	190.7	208.0	209.3	239.2	228.0	207.2
1985	226.9	198.8	196.8	196.1	178.0	158.0	176.0	167.6	173.4	200.8	177.7	189.1
1986	195.4	169.3	170.6	192.4	160.5	153.4	177.2	169.1	206.7	207.6	187.5	214.8
1987	209.1	194.1	218.1	202.7	176.9	180.8	177.9	167.6	192.7	197.8	202.6	221.1
1988	207.6	197.7	205.1	167.4	166.5	167.3	145.9	172.2	170.5	167.3	180.5	179.8

Source : C.E.E. CRONOS

Table 38 : Intermediate Consumption (in % of Total Output) of Dairy Farms by Size of Herd in France 1983-87.

Size	1983/84	1984/85	1985/86	1986/87	1987/83 (%)	Yearly Growth Rate (%)
1-9	49.3	53.9	50.3	56.9	15.4	5.1
10-19	54.4	54.0	54.2	54.5	0.2	0.1
20-29	54.2	55.8	54.4	54.7	0.9	0.3
30-49	55.5	54.5	54.8	55.0	-0.9	-0.3
50-99	56.2	56.2	55.8	55.7	-0.9	-0.3
Total	55.0	54.9	54.7	55.0	-0.1	0.0

Source : FADN

Table 39 : Trends in Price Index for Animal Feeding, Energy, Investments and Machinery in France 1980-90 (100=).

Year	1983	1984	1985	1986	1987	1988	1989
Animal feeding	141.4	152.8	147.5	144.3	140.5	149.0	156.2
Energy	155.4	166.3	179.7	146.2	145.8	133.5	146.0
Investments and Machinery	142.0	152.1	160.1	168.6	176.8	185.0	193.4

Source : Eurostat

Table 40 : Trend in Industrial Production of Animal Feeding in France 1984-89 (Thousand Tons).

	1980	1985	1986	1987	1988	1989	1985/80	1989/85
For France	3287	3519	3742	3655	3994	4437	7.1	26.1
For EEC	29914	32072	33158	31668	32175	32245	7.2	0.5

Source : FEFAC

Table 41 : Value of Input, Output and Income of Dairy Farms in France 1983-88.

	1983-84	1984-85	1985-86	1986-87	1987-88
Input	15103	16194	17348	17721	18380
Output	27441	29482	31719	32234	34646
Income	6121	6413	6933	6968	8794

Source : FADN

Note : Input = intermediate consumption.

Table 42 : Trend in Visible Human Consumption of the Main Dairy Products in France 1979-89 (kg/person).

	Fluid Milk	Butter	Cheese
1979	77.0	9.7	17.8
1980	77.9	9.4	18.6
1981	77.3	9.3	18.9
1982	78.0	9.4	19.3
1983	78.5	9.3	19.9
1984	80.7	9.3	20.4
1985	80.9	9.2	20.7
1986	80.4	9.1	21.1
1987	79.0	9.0	21.8
1988	79.0	8.8	22.0
1989	80.4	8.5	22.3

Source : C.N.I.E.L.