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The Commercialisation of Parmigiano Reggiano Cheese at the Beginning of the New Millennium

1. Foreword

This paper aims at describing the main marketing strategies adopted by those companies that produce and commercialise one of the most ancient artisan products in the Italian agro-food tradition. Such an examination is topical because the product is now going through a particularly crucial phase of its history with regard to production problems, the trends in the wholesale market, the restructuring of the retailing network and the new opportunities opened up by the added value of the PDO mark.

The economic importance of Parmigiano Reggiano Cheese is testified by the considerable turnover generated by its market in the last few years. For instance, it must be considered that the value of the production in the entire area for 1998, calculated at average wholesale prices, amounts to about 1,522 billion Euro (Table 1). The importance of Parmigiano Reggiano Cheese lies not only in its production value, but also in that it activates other production sectors, thereby creating a chain whose total value, according to a recent estimate, is of about 5,000 billion Euro (Fabbi, 1998).

In its own right, the Parmigiano Reggiano chain constitutes a significant example of how an outstanding product can be obtained thanks to the work and efforts of very different operators, with different objectives and strategies relating to their respective role in the chain.

From a strictly commercial point of view, Parmigiano Reggiano is characterised by the fact that it goes from “hand to hand” several times before arriving on the consumers’ tables. The length of its distribution channel and the related commercial and marketing strategies are closely inter-linked and depend on the strategic aim adopted by every type of company on the basis of its internal production structure and budget. These strategies have varied with time according to the modifications in productive and commercial structures, the spreading of new forms of distribution, and the slow changes in the consumption habits of ever wider segments of the consumer market.

In order to be more completely acquainted with the various strategies by the different types of companies and fully understand their motivations, we shall follow the chain of this product in its several stages, starting from the dairy farms to arrive at the distribution sector without forgetting the role played by some important bodies in protecting and enhancing the value of Parmigiano Reggiano Cheese. Once these aspects have been clarified, it may be possible to identify the problems posed by new market opportunities.

2. Production structures

2.1 *Farms*

To describe the production structures in the Parmigiano Reggiano sector one must start by considering that this product does originate in dairy, but before that in the farms. Indeed, cattle breeders rigidly follow the production regulations set out by the Consortium of Parmigiano Reggiano Cheese[1] for what concerns milk-production techniques,[2] and the milk they obtain is suitable for a still artisan method of production of raw cheese to be aged for over two years before being consumed.

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[1] Consorzio del Formaggio Parmigiano Reggiano (CFPR)

[2] This section in the production regulations is known as ‘The Little Green Book’ (“Libretto Verde”).

In other words, the production structure of Parmigiano Reggiano is based on a dense network of farms that convey their milk to co-operative and/or private dairies in an area comprised within the Regions of Lombardy and Emilia-Romagna. [3] As we shall see later, this is a very important aspect because the behaviour of the farms has a direct influence on the strategies of other participants in the chain. Indeed it is the farms that condition the overall supply of milk and, therefore, cheese.

In relation to the latter aspect, the most recent statistical data on the number of farms and milk-producing heads of cattle in Emilia-Romagna alone clearly reveal that a process of concentration of production is underway. What emerges is indeed that, even if the sector is characterised by small, family-run farms many farmers have sold their cattle (with a decrease of over 36,000 heads of cattle in the last five years) and have left the sector because of the actual beginning of the 'milk-quotas regime', a lasting climate of variable market conditions, and the occasional lack of a mechanism of generational turnover. By contrast, the farms which are still active in the sector have increased the number of cattle, resorting to forms of more intensive management. A quick glance at statistical data indicates that in 1990 in the Emilia Romagna region, farms under 20 Hectares represented 67% of milk-producing farms, with a number of heads of cattle that was 33.6 % of the total regional livestock population. Instead, in 1995 farms under 20 Hectares represented 62.9% of farms with 34.2% of milk-producing cattle. [4]

On average, the number of cattle in the stables of the Parmigiano Reggiano area ranges around 20 heads, with ample variations from province to province, and, within these, in relation to altimetrical conditions.

The process of concentration of production structures is witnessed by the data collected by the Consortium which indicate that, between 1991 and 1995, in the entire Parmigiano Reggiano area there was a significant increase in the contribution of milk by each farm despite a decrease in the number of participating farms of 4,851 units (-36.6%). With regard to this latter parameter, the average annual contribution per farm goes from 117 tons of milk in 1991 to 169 tons in 1995, with an increase of over 46% that indicates the productive efforts by the cattle breeders in the area.

Of course, these farms have implemented more and more intensive breeding techniques and increasingly invested in technological equipment, which, on the one hand, have guaranteed improved standards of performance (the annual average production per head of cattle has gone from 47.5 to 51.5 in 7 years) [5], yet, on the other hand, these improvements have raised production costs, forcing farmers to resort to external financial sources. [6]

2.2 Dairies

The dairies where milk is conveyed are distinguished by a dimensional variety which reflects the social and environmental characteristics of the several areas of production, as well as an intense process of restructuring and concentration of production.

It is sufficient to consider that, if in 1970 there were 1,652 active dairies, these were 612 in 1998, with a decrease of over 1,000 units. The provinces most affected in absolute values by this phenomenon have been Modena (-378 units), Reggio Emilia (-279 units), Parma (-227 units), Mantua (-105 units) and Bologna (-51 units). In relative terms, instead, the largest decrease has taken place in areas which are usually considered less typical and where intense

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[3] The production regulations, as defined in the National Law of 10 April 1954 n.125, specifies that Parmigiano Reggiano cheese may only be produced in the following geographic areas: Parma, Reggio Emilia, Modena, Bologna on the left bank of the river Reno, and Mantova on the right bank of the Po river.

[4] See ISTAT, Censimento generale dell'agricoltura Anno 1990 e Indagine strutturale intermedia edizione 1996.

[5] See Il miglioramento genetico, Annuario del latte, 1996-1998., SMEA, Franco Angeli.

[6] See I costi di produzione del latte, Annuario del latte,. Op. cit.

extra-agricultural activities have developed alongside farming, as in the provinces of Bologna (-78%) and Modena (-73%) (Table.2).

The economic role of dairies becomes then evident in relation to the different rural situations. The presence of a dairy used to represent, and still does, a guarantee for farms that they will be able to continue breeding cattle and thus have a future. In order to have a better understanding of the importance of the dairies, we will analyse their spreading in the area and the adopted company structures.

With regard to their territorial distribution, Consortium indicate that, in 1998, 423 dairies were located in the plain (69.1% of the total) and 189 (that is, 30.9 %) in the hills and mountains. By way of comparison, in 1970 the dairies in the plain amounted to 77% of the total, and those in the mountains to 23%. The largest decrease in the number of dairies has affected the plain (-66.7% since 1970) rather than the mountains (-50.2 since 1970). This fact reveals that, despite crises in the sector and the depopulation of less favoured rural areas, the production of Parmigiano Reggiano Cheese still represents one of the few activities that both generates an income and links the population to the territory.

With regard to the company structures of the dairies, it must be pointed out that these can be either part of a farm or autonomous processing plants set up as (mostly artisan) individual firms or as (usually co-operative) partnerships. In 1998, out of the 612 active dairies in the territory, 81.7 % were co-operatives, whereas 18.3 % were artisan firms and partnerships. On the whole, co-operative dairies in 1995 processed 85% of the milk in the area against 15% processed by the other dairies, except for the province of Parma where the latter establishments processed about one third of the milk destined for dairy products.

The concentration of production is further demonstrated by the increase of dairy sizes both in terms of processed milk and of cheese produced.

With regard to the average productivity per dairy expressed in tons of processed milk (Table 3.), it is clear that the size of the dairies has kept on growing with time. If in 1970 a dairy processed an average of 699 tons of milk, in 1998 the figure was 2,713 tons, with an increase of over 2,014 tons of milk over 25 years. The largest production units are located in the province of Mantua where, in 1998, each dairy processed 3,880 tons of milk on average, followed by the dairies of Reggio Emilia (2,740 tons), Parma (2,710 tons), Bologna (2,570 tons) and Modena (2,290 tons). It must be stressed that the largest increase in size has taken place in the plain, where dairies have raised their productivity by about 2,000 tons a year with respect to the 1,100 tons of mountain dairies. Also, in relation to the quantity of cheese produced per dairy (Table 4), it appears that this has increased by 3.5 times in the last 25 years, going from 46.2 tons of cheese per dairy in 1970 to 179.9 tons in 1998.

Furthermore, despite the great decrease in the number of dairies recorded between 1970 and 1998, the production of Parmigiano Reggiano within the territory has definitely increased going from 76,265 tons of cheese in 1970 to 110,128 tons in 1998 (Table 5), according to a constantly growing trend. Lately, after the crisis in the sector during the early 1990s, the production has continued to grow, overtaking even the ‘historic’ output of 1990 when the entire area produced 109,427 tons of cheese. Notably, with respect to 1970, the CFPR and the related structures have remarkably stepped up their efforts, as attested by an overall increase in the production of 44%.

This enormous increment has brought about new structural and organisational problems in the entire production process, leading to new commercial and financial strategies. For instance, the storage issue is fast becoming of primary importance if we consider that in 1970 a whole year’s production could be stored in 1,320 cheese spaces. Nowadays, even if the weight of each cheese is the same as ever (35 kg), the figure soars to a staggering 4,617 cheese spaces per year.

From an analysis of the distribution of dairies according to their sizes, it emerges that the average size is between 1,500 and 3,000 tons of milk. In 1995 these dairies corresponded to

44% of the production plants and processed only 42% of the available milk. The situation of larger dairies (over 3,000 tons of milk) is different, because these process 42% of the milk even if they constitute only 19.5 % of the total. Dairies below 1,500 tons of milk still constitute 36% of productive units and process only 17% of milk.

3. Considerations on the strategies of co-operative dairies

These data help us to obtain a more complete picture of the consequences of such a widespread system of co-operatives and their commercial choices. In this respect, co-operation must not only be seen as an aggregating form of production but also as an instance of social aggregation that affects the families of the participating and managing farmers. In this sense, the co-operative represents the main, if not the only, source of income for these farms, and the life-cycle of a co-operative very often coincides with the life-cycle of those farming families that contribute their milk to it.

By this token, the strategy of most co-operatives tends to protect the interests of farmers and their families rather than those of the co-operative itself, and it may therefore be considered a form of short-term strategy. Most co-operative dairies indeed keep the cheese to age in their warehouses for the shortest possible time, selling the entire production to dealers and ageing firms as soon as the qualities of the product or market conditions make it possible. [7] In this way, besides reducing the technical and marketing risk of an ageing process stretched over more than two years, some managing costs are reduced, especially those of the ageing process, but above all, the farmers who have provided the milk may be paid back as soon as possible, thus meeting their financial needs.

It must be noticed that, unlike other sectors where the co-operatives pay for their raw materials through periodically fixed down payments, Parmigiano Reggiano co-operative dairies pay for almost all the milk provided by members only when the cheese has been sold.

Several factors are responsible for the fact that co-operatives avoid credit with which they could pay members in advance for the raw material they provide. The first factor is that all of these dairies can be seen as single-product companies, as they exclusively produce and sell Parmigiano Reggiano cheese. [8] Because they renounce the possibility of using part of the milk to produce cheeses with a shorter ageing period, they cannot avail themselves of an alternative source of liquidity that might help the co-operative to advance payments to members. The second aspect, more important than the first, is that these co-operative structures are low-capital companies with respect to the value of production, a fact which induces banks to grant loans with difficulty and at very high interest rates. The possibility of obtaining loans by offering the cheese produced as a guarantee is seen by many co-operatives as too expensive a practice, and is therefore left aside. Consequently, only a few co-operative dairies age their cheese for over two years in order to sell directly to distribution channels, be these traditional or modern. Most co-operatives prefer to sell their entire production directly to wholesalers. These will take care of the second year of ageing and will then re-sell the cheese to other dealers or directly to the distributors.

[7] At present, Parmigiano Reggiano cheese is commercialised in homogeneous lots of four months that include the productions of January- April, May – August and September-December.

[8] Actually, besides Parmigiano Reggiano, the dairies also produce and sell butter and whey. The impact of these two products on the overall production to be sold is negligible, and often the proceeds from the sales of these subproducts are used to cover some of the current expenses. Some dairies also breed pigs, but the tendency to separate cheese making dairy and pig-farm is becoming more and more widespread.

If, on the one hand, the co-operatives' strategy of selling their entire production to dealers-ageing firms has the advantage, together with those listed above, of reducing commercial costs to mediation expenses only, [9] on the other hand, it presents some disadvantages such as:

- In the first place Parmigiano Reggiano loses the connotation given by its local provenance and linked to the 'actual' producer (the dairy) to become a generic form of Parmigiano Reggiano. This does not allow customers to trace the original dairy and transfers (when it does not altogether annul) the 'added' value of the quality of the cheese, the techniques of animal feeding or milk processing typical of a certain area or dairy to the dealers. In other words, the dairy leaves the dealers totally free to decide the marketing to be adopted for their cheese (i.e., segmentation of the supply, type of packaging, portioning, pricing, sales channels, forms of advertising, possible promotions etc).
- As a result of selling the entire stock to only one dealer, a policy of the segmentation of the supply based on the quality of the cheese is not implemented. The only difference in quality is that between 'marked' cheese (bearing a PDO mark) and 'unmarked' cheese (not suitable for the second stage of ageing). Actually, the class of marked cheese comprises at least three degrees of quality[10], which however contribute to fix an average global price for the entire stock which is sold wholesale. Unmarked cheese is usually sold separately from the 'marked' one to other dealers who then re-sell it as quickly as possible through local sales channels at lower price ranges. It must be noticed that in this phase of buying and selling, the 'quality survey' of Parmigiano Reggiano by Consortium experts is only meant to award the PDO mark and not for a segmentation of the supply. For this reason the dealer- ageing firm carries out a second survey on which the selling price is based.
- How the selling price is fixed represents another major negative component of this way of commercialising Parmigiano Reggiano cheese. Indeed, the price is ultimately influenced by market trends, contractual conditions (depending on the time the year when the cheese is collected and paid for) and the size of stocks. On the basis of what we have seen above, quality plays a marginal role because, even if the buyer is ready to pay extra money for quality, this information is not transferred to the other operators. In practice, a homogeneous level of quality, founded on marked cheese, is supposed to exist among the various dairies. The price margin between the different producers cannot be imputed to quality, as it is modified by contractual conditions (which sometimes prove very onerous for the dairy). Paradoxically, quality remains highly appreciated and sought-after by dealers, not so much because it might make the product easier to re-sell, but as a guarantee that there will be no waste during the second year of ageing. Even so, quality is implicitly monetized (with faster methods of payment, for example) in order to avoid raising the prices of cheese stocks still to be sold.
- It may be easily concluded that, since dairies choose to avoid commercial strategies based on the instruments of market research, their contractual power is very limited and generally conforms to a 'price-taker' logic. Such a condition is made worse by the fact that a large number of smaller dealers abandon the market. This further contributes to concentrate the demand for cheese that has aged for less than one year (defined as 'fresh') in a reduced number of commercial enterprises that, in the meantime, have grown in size and have increased their contractual power. The concentration of the demand, together with a lack of organisation in co-operative structures, has given birth to 'informal cartels'

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[9] The mediator is a typical figure in the world of Parmigiano Reggiano as sales are carried out only in his presence. Also, mediators often carry out a first technical evaluation of the cheese, put the co-operative in touch with the potential buyer, help the development of the negotiations, and underwrite the contract.

[10] The Consortium itself distinguishes between "**first-choice**" cheese (without any defects), "**zero**" (with light external flaws), "**one**" (with minor internal flaws).

which actually control the trends in the wholesale market between the first and second ageing phase.

- For all these reasons, the Parmigiano Reggiano market, which in the past used to present very temporary features, still remains a speculative market, in which the purchase or sale of fresh cheese is largely conditioned by the expectations of a rise in prices by the 'dealers-ageing firms-speculators' rather than by the actual characteristics of the product.

From this description it is evident that, although farmers play such an important role in the production of high-quality milk and a prestigious cheese, they completely lose any contact with the product when it enters the market.
Attempts to provide co-operative dairies, and therefore farmers, with marketing strategies of their own have essentially tended to concentrate the supply of cheese in second- and third-degree co-operative structures, or Consortia. Operating on behalf of associated co-operatives, these structures should be in a position to give banks the necessary guarantees, and then to ensure periodical down payments to the farmers and, above all, to develop their own sales policy with modern distribution channels for cheese that has aged for over 18 months. It must be said that very few of these initiatives, launched around the 1980s, have been successful. And, despite the heavy political and financial efforts of the Regione Emilia Romagna in favour of this kind of operation, nowadays there are only three large Consortia that commercialise the cheese produced by their members (Modena's Consorzio Granterre, Consorzio Lattiero Caseario in Carpi, Cooperativa Granarolo Felsinea in Bologna). At the same time, there have been attempts to develop marks that may bunch together the dairies of a specific Commune (as in the case of Gruppo Bizzozzero and the Montechiarugolo dairies in the Parma province), leaving the marketing of their cheese to commercial agents or selling it themselves. In these latter cases the expenses to be met by farmers are very onerous, as they have to finance themselves with bank loans often guaranteed by their farm.
The concentration process that may be observed at the level of agricultural production, transformation and commercialisation bears on the entire Parmigiano Reggiano sector which additionally has to face ever new problems such as the restrictions imposed by milk quotas. On the one hand, it is true that costs may be contained only by enlarging structures and by developing scale economies as well as more suitable marketing policies. On the other hand, the milk quotas regime represents a strong limitation on the development of new cattle breeding farms, and, at the same time, to that of new dairies which, in order to overcome this obstacle, are obliged to look for 'new milk', luring members away from other co-operatives or buying the milk directly on the market together with other private dairies, thus taking this milk away from the latter or from the food industry. It follows that the adoption of an 'aggressive' expansion policy presupposes the abandonment of a passive 'price-taker' stance and the beginning of one's own commercial strategy which may guarantee the expected profits. What seems certain is that the future will see the closing of more dairies, above all the smaller ones, those whose social basis is represented by family-run farms without any generational turnover, or those dairies that cannot ensure farmers cash-flows which may be suitable to their investments and to the purchase of production factors.

4. Market trends

The price trends observed by the Chambers of Commerce (CCIAA) witness the problems affecting the Parmigiano Reggiano sector as consequences of an inefficient market. An analysis of the historical price cycles reveals how, in the case of Parmigiano Reggiano cheese, there exist two distinct wholesale markets with their respective quotations and trends. The first is the market for cheese that has been aged for less than one year (fresh) and sold by dairies to ageing firms; the second is the market for cheese that has been aged for over 18

months (aged) sold by ageing firms to dealers and/or wholesalers. Whereas the fresh cheese market is seasonal and ends when all the stocks have been sold, the market for aged cheese is continuous as negotiations take place throughout the year in relation to different parts of the lots. Both quotations are registered by the Chambers of Commerce in the Parmigiano Reggiano area and published weekly. Prices always refer to 'marked' cheese and, especially for fresh cheese, they do not take into consideration the actual contractual conditions which are agreed upon by operators with regard to delivery and payment terms. The latter parameters are highly indicative of the state of health of the market because, if payments for aged cheese are normally made within 60-90 days, payments for fresh cheese can be extended for longer periods, sometimes over 6-8 months under very heavy market conditions.
More specifically, the observation of weekly quotations by CCIAAs gives precise indications about market trends. On the basis of Parma CCIAA data about fresh cheese aged for less than one year, it is possible to see how market conditions have been gradually changing, anticipating the opening of negotiations when the market grows, and postponing them when the market shows negative signals (Tables 6,7 and Graph 1,2).
It may be easily observed that wholesale prices for cheese which has been aged for over 2 years are more homogeneous than prices for so-called fresh cheese. This is because the logic that governs this type of market is no longer the speculative one (proper to the market for fresh cheese), but rather a logic based on the reconstruction of stocks, with a uniform demand over time, and with commercialised batches which are definitely smaller than those for fresh cheese.
This confirms that quality plays a minor role in defining the price of aged cheese (with a 3-year ageing period), as the latter is sold at the same price of 18-month cheese although it is obviously of a higher quality. It almost seems that the wholesale market is not able to differentiate significantly between the prices of products with remarkably diverse commercial features (in this case, definitely superior features) and also with widely different (ageing) costs. In reality, this type of cheese has to be sold in order to cope with the incoming stocks of the new production year, something that obliges dealers to undersell their cheese without taking the added value of quality and ageing costs into consideration.
A common feature of the fresh and aged cheese markets is that of the cyclicity of prices over time. Even in this case, an analysis of the historical cycles, excluding their seasonal aspects, evidences that the last ten years have seen an alternation between periods of remarkable price increases and periods of notable decreases (Graph 3).

5. The current problems of Parmigiano Reggiano

5.1 The relations with distribution

At present the sector is going through a negative phase which began in June 1996. Since then wholesale prices have decreased by more than 30%, enough to talk of a real crisis.
The causes of this negative phase are numerous and exemplify a lack of strategy or co-ordination among the various participants to the Parmigiano Reggiano chain. In particular, it must be remembered that dairies do not adjust the supply to the demand, since they do not age any, or very little, cheese, and are normally located a long way from their distribution outlets. Rather, the adjustment is carried out by farmers, who produce the milk, and by the wholesalers-ageing firms who control stocks. The first cause of the price drop must be found in the heavy introduction of cheese on the market coming from ageing firms' stocks, as they tried to take advantage of the remarkable price increase in 1995 by selling their aged production. The sudden rise in prices forced farmers to increase once more the production of milk and cheese which was then put on the market after two years. The positive production trend begun in 1995 is not over yet and has occasioned an increasing saturation of the market

as well as a negative influence on prices. The present crisis therefore features a structural component that depends prevalently on the rigidity of a system that makes any transfer of information from retailers to producers inefficient.

There are however further reasons for the fall in prices, namely the current unusual economic situation of Italy and, partly, the evolution of the Italian distribution system which penalises Parmigiano Reggiano as a product.

An analysis of statistical data on Italian consumption habits reveals that the composition of a family's shopping expenditure is slowly changing in favour of durable goods. [11] More recently, the restrictive governmental policies to curb inflation and meet Maastricht parameters has influenced real wages**,** notably contributing to diminish the spending power of consumers, whose reaction was to further modify the composition of their shopping expenditure. However, it must be said that, besides the variations in spending power, other factors influence the evolution of consumption such as changes in eating habits, an ageing population, and the transformations in the family structure. All of these factors significantly bear on consumer behaviour and have to be taken into account. In short, the crisis of Parmigiano Reggiano is to be attributed more to a fall in consumption than to the increase in the supply. Indeed, a reduction in the purchasing power of wages inevitably leads consumers to choose less expensive goods, in the case of less wealthy families, or higher quality goods (where quality can be ascertained), for those families with a higher spending power.

With regard to the modernisation of distribution systems, it must be realistically observed that a typical, artisan product such as Parmigiano Reggiano may find it difficult to match the intense evolution affecting the entire distribution sector.

As is well-known, the arrival of modern forms of distribution has forced many smaller shops to close in favour of more modern and efficient commercial forms (such as supermarkets, superettes, and hypermarkets), or even particularly aggressive forms such as the 'hard discounts'. In this respect, Nielsen data for 1997 indicates that over 43% of Parmigiano Reggiano sales take place in supermarkets and hypermarkets, 6.4% in 'hard discount' shops, whereas specialised and traditional shops account for a reduced 27.9% of all sales (Table 8).

In a situation characterised by the spreading of self-service forms of distribution, consumers find it increasingly difficult to choose a product without any recognisable mark if they are not helped by a reliable shop keeper. The writing on a vacuum pack in the freezer compartment does not allow the consumer to ascertain the quality of the product or verify the price / quality ratio. It is even difficult to distinguish Grana Padano [12] from Parmigiano Reggiano on the shelves of supermarkets and hypermarkets, and, at present, there are no trademarks able to reassure customers on the quality or on the characteristics of the product they have purchased.

In this situation, price is the only element of evaluation left to consumers (it has been demonstrated that consumers are extremely sensitive to the price of a single wedge of cheese rather than the price per kilo). Among other things, Parmigiano Reggiano is almost always shelved in the same place as a substitute product, such as Grana Padano, usually sold at lower prices.

In order to modify consumers' behaviour it is necessary to provide them with further information and guarantees about the quality of the cheese they are buying, something which can be effected through information campaigns in the distribution outlets, differentiating the product according to the characteristics that determine its quality (ageing time, year of production, etc.), as well as by adequate labelling policies. The promotion of a new information policy should come not only from the Consortium of Parmigiano Reggiano, but it

[11] In this respect, the data provided by ISTAT on the composition of family shopping indicate that in 1985 food expenses represented 31.6% of the total, while in 1995 such threshold decreased to 21.6%.

[12] Grana Padano is another Italian Hard Cheese . It is also provided with POD mark but its commercial value is lower than Parmigiano Reggiano

should also be taken on board by dealers, who are in direct contact with retailers, and adjust more quickly to changes in the market.
Yet it is the dealers who find it difficult to face the mass distributors because, in spite of the remarkable concentration process, they do not hold any brands strong enough to impose (or negotiate) their own marketing policy on distributors. It is often the latter who impose when and how to activate marketing procedures to improve sales on suppliers of Parmigiano Reggiano. In this way the gap between production and commercialisation increases even more.
On this basis, modern distributors are not interested in obtaining their supplies directly from the co-operative dairies because they would have to bear the cost of the second phase of ageing with high risks that are both economic (temporary price variations) and technical (product loss). By contrast, they prefer to buy directly from dealers and get supplies which are homogeneous from a qualitative and quantitative point of view, at generally competitive prices, and with minimum risks.
Another aspect that needs stressing is that in the retailing phase, modern distribution rarely highlights the value of the mark of specific co-operative dairies (which is represented by a four-figure series, the meaning of which is unknown to most consumers), and this is especially the case if the sale takes place in a self-service structure. Instead, modern distribution stresses the value of the ‘generic’ mark ‘Parmigiano Reggiano’, together with the logo of the commercialising (or distributing) company, without providing any information on the provenance of the cheese. What is lost in this process is the added value given by the area of origin as well as any particular cattle breeding and milk processing techniques.
Retrieving and giving value to information about the provenance area of the cheese might be a possible strategy to achieve a better organisation of sales and to stimulate customer loyalty, with the added advantage of further linking modern distribution and processing companies. This shift, however, calls for a decisive change in supplying strategies and a reorganisation of the entire chain of this famous cheese.

5.2 *The role of the Consortium of Parmigiano Reggiano Cheese*

The single participants to the different segments of the chain are not the only ones to control the management of Parmigiano Reggiano Cheese, that is to say the definition of the productive, qualitative and commercial strategies regarding it. These are also the competence of the 'Consorzio del Formaggio Parmigiano Reggiano (CFPR)', founded by producers in 1934 as a voluntary protection Consortium. [13] Since then it has played a fundamental role in the development of the entire sector, advertising Parmigiano Reggiano also through its own distinctive Consortium mark. Its safeguarding action was officially recognised with a law of 1955 (D.P.R. 30 May) awarding the PDO mark to Parmigiano Reggiano (“Denominazione di Origine Controllata”: Protect Denomination of Origin) and defining the ‘area of origin’, product standards and the means of control and protection of the product itself.
The aims of the Consortium, defined in article 3 of the Statute, specify that it must carry out ‘an active vigilance over the production and commercialisation of Parmigiano Reggiano cheese, the use of its designation and of the marks and seals of the Consortium…’ ‘ to prevent and repress abuses or irregularities that may damage the name and image of the product and the interest and rights of the Consortium and its associates’. To enforce all this, the Inter-ministerial Decree of 17 June 1957 entrusted the CFPR with monitoring and controlling the quality of the protected production as well as marking the cheese with the official seal as established by the production regulations of the Consortium itself. According to the Statute, indeed, ‘the marking and sealing on the cheese, the feeding of the cows whose milk is

[13] Since 1994 the Statute of CFPR specifies that those commercialising or ageing companies that prevalently operate in the Parmigiano-Reggiano production area may also participate to the activities of the Consortium.

destined for Parmigiano Reggiano cheese, and the aims in the production of cheese' must conform to appropriate regulations set by the board of directors and approved by the general assembly of delegates'.

On the basis of this authority, since its foundation the Consortium has carried out public functions, *erga omnes*, despite being a private organisation. Besides managing and protecting a 'public' mark, it has helped the introduction of a unique product on the market, ensuring its geographic provenance, production techniques and qualities. In this way it has acted as a 'guarantor' towards consumers.

Among the various activities of the CFPR, we must remember its attempt to control and co-ordinate the market through an activity of 'quantitative programming' of the supply. More precisely, the CFPR launched this programming activity in 1982 by setting out specific production plans as is contemplated in the self-regulating principles of the Consortium. Those plans indicated the maximum production target in a certain year as well as the economic indexes on the basis of which this target was determined.

However, the programming activity of the Consortium finished in 1996 when the Italian 'Anti-Trust Authority' subjected it to disciplinary measures after a presumed attempt to restrict competition in the Parmigiano Reggiano cheese sector, and in spite of the fact that quantitative programming was imposed as one of CFPR's duties by the law D.M. of 14 December 1981. At present, planning is closely linked to the quantity of milk each farmer can produce on the basis of the quotas established by the European Union.

In addition, the Consortium is deeply engaged in the protection of quality. In this respect, it has been developing a policy of quality protection as a strategic element to come to terms with problems in the market and with those occasioned by the reorganisation of the production structure.

With regard to market issues, the Consortium's policy of quality protection is motivated by the ever increasing attention consumers pay to high quality products. At the same time, the adoption of a policy of quality protection is an important instrument in order to tackle some of the problems posed by the increasing sizes of dairies, above all the need to limit the production of non-standard and therefore 'non-marked' cheese.

To achieve the aim of raising the quality standards of Parmigiano Reggiano, the CFPR has started the 'Quality project' which intends to award certificates to dairies and cattle breeding farms according to UNI EN ISO 9002 norms. Specifically, this project was launched in 1993 and became a reality in 1996 when its first 6 dairies obtained their certifications from 'Det Norske Veritas-Italia'. At present, 100 dairies are certified, corresponding to an overall production of 30,000 tons of cheese.

In particular, the aims of this certification policy may be summarised as follows:

- the protection of tradition and the controlled, systematic enforcement of production regulations;
- the rationalisation of management throughout the production chain;
- the adjustment to new Italian and European quality regulations

The first two points indicate how the Consortium is concerned, on the one hand, with managing the technological and structural renovation the sector of Parmigiano Reggiano is undergoing from the qualitative point of view; and, on the other, with guaranteeing a better co-ordination along the entire chain. In this respect, it is necessary to observe that the concentration process which is underway both in cattle breeding farms and dairies has resulted in a remarkable increase in the quantity of processed milk per dairy, with the risk of increasing the quantity of rejects (cheese unsuitable for ageing) because of an imperfect processing of raw materials. The attempt is therefore to endow a type of artisan technology with a series of controls and procedures which may further standardise the processing technique or, better, make it more similar to industrial processing methods. The ultimate aim is to reduce the quantity of cheese unsuitable for commercialisation, something which has a negative impact both on co-operative budgets and on the product image towards consumers.

In practice, the certification process has started a monitoring and control system throughout the production process of Parmigiano Reggiano. This means controls of cow fodder, characteristics of the milk and its suitability for dairy processing, correctness and hygiene of the processing methods in the dairy, development of expertise and skills, etc. In this context, the aim of the Consortium is not to repress but rather to assist the companies of the chain in the development of the production cycle and guarantee the correct and uniform application of the norms for quality protection in compliance with European Regulations, Consortium production regulations and the UNI EN ISO 9002 norms.

In particular, the production system of the Consortium is developing a structure made up of two complementary phases. The first concerns the adoption of a ‘Quality System’ directly derived from EEC Directive 93/43 about the hygiene of food products and EEC Directive 92/46 which is specific to the dairy-farming sector and, at the same time, in compliance with production regulations defined on the basis of EEC Regulation 2081/92 about designations of protected origin. The second phase is an amplification of the first and aims at formalising the Consortium’s own quality system through the voluntary norms of the UNI EN ISO 9000 norms, and specifically norm 9002.

According to the Consortium, adopting the ISO 9002 voluntary certification system, despite its expensiveness, means the possibility of giving the necessary visibility to process certification in the near future and of qualifying the commercial relations between producer and distributor.

On the basis of the elements described above, however, only few dairies commercialise their own cheese through direct relations with the distribution system. In the absence of an adequate reorganisation of the chain, there is a risk that even the certification may not be adequately taken into consideration by dealers. For this reason, nowadays, ISO 9002 certification is valued only in relation to the internal management of the companies, rather than to their external projections, as it is an instrument to control the entire production cycle at the best of its possibilities.

5.3 *Problems and prospects of PDO marks*.

What has been described so far aimed at providing as complete as possible a picture of the complex relations between producers (farms, dairies), sellers (dealers and distributors) and those who are in charge of the ‘Parmigiano Reggiano’ mark (the Consortium). To complete this scenario, it is necessary to consider some important new developments, which are currently taking shape and that could substantially modify the market of this cheese.

More specifically, after the application of (EEC) Reg. n. 2081/92 on the protection of geographical indications and designations of origin of agricultural and food products, the Italian legislation has enforced article 10. According to the latter, the control structures in charge of guaranteeing that PDO and PGI marked food and agricultural products meet the regulation prerequisites must abide by the conditions specified in norm EN 45011 of 26 June 1989, as from 1 January 1998. The enforcement of this regulation in Italy has been particularly beset with problems, so much so that, to the present day, a solution to this situation has not yet been found. In particular, the ordinance of the Ministry of Agriculture according to which every protected geographical designation or indication may be under the control of only one authorised

private organisation[14] has provoked criticism by producers, confirmed by a notice sent to the 'Autorità garante della Concorrenza' ('Antitrust Authority) [15] and by an ordinance of the 'Consiglio di Stato' stating that all PDO and PGI products can be subjected to a number of private control organisations, thus admitting *de facto* that every producer may obtain a certification from a society other than that recognised by the Consortium.
The latter has complied with article 10 by referring all controls to the 'Dipartimento Controllo Qualità Parmigiano Reggiano' ('Parmigiano Reggiano Quality Control Department'), which has those features of independence, competence and impartiality required by regulation EN 45011, and so far all Consortium producers, with no exception, have relied on its activities. Despite the climate of uncertainty spread in the sector by such an issue, the transfer of control to a third party has not caused any repercussions on the role played by the Consortium with regard to consumers. Indeed, the Consortium's mark still represents tradition, an artisan method of production and the respect for quality specified by regulations, for which customers are ready to pay more.
The Consortium has actively sought to obtain the awarding of the PDO mark from the European Union, but it is doubtful whether it will actually add anything to a product which has turned the Consortium mark into the main instrument to communicate with consumers.
In order to answer, it is necessary to reconsider briefly the reasons which have led EEC legislators to pass Reg. 2081/92. These are:

- the need to protect consumers against unfair practice and imitations, and to favour a diversification of the supply of food products as an alternative to the standardised productions of mass food industries.
- the protection of rural areas through the development of those economic activities which may anchor people to their territories.
- the need to protect typical products against possible competition from other similar products by Member States, and offer monopoly conditions to producers entitled to this kind of exclusivity.

Given the three fundamental aims of (CEE) Reg. 2081/92, it is now possible to ask whether the awarding of PDO status to Parmigiano Reggiano has really contributed to reach any of these objectives.
Producers of Parmigiano Reggiano are sceptical about the kind of protection given by such a mark. Indeed, the Designation of Protected Origin is not exclusive to the group of producers that originally filed for it. Rather, it may be extended to anyone who manufactures the protected product according to the prescriptions in the production regulations. Consortium producers thus have the power to prevent those who do not respect such regulations from using the name, but they cannot do so when a producer, who does not belong to the Consortium, respects the same regulations. In this sense, Reg. 2081/92 has had the opposite effect from what was originally intended, because the PDO mark, being a public property**,** is given to producers who adopt the code of rule without the Consortium's approval. Therefore, in the future, a second Consortium or a single private company (not necessarily Italian) might emerge and replace the present network of dairies, directly handling the cheese it has produced and, thanks to its own company mark, adopt a much more aggressive policy towards distribution than that operated by the present Consortium or commercialisation companies. And all this would take place in compliance with production regulations and EEC laws.

[14] See Art. 6 in D.M. (Decreto Ministeriale) of 18 December 1997, published in G.U. (Gazzetta Ufficiale) of 2 February 1998 and art. 53 of "Legge Comunitaria 128/98 "95-97".
[15] **Memorandum,** Autorità garante della Concorrenza of 6 March 1998.

The risk of losing control over the Parmigiano Reggiano designation is remarkable, whereas at present the commercial advantages are very limited if we consider the current organisation of the chain, the exported quantities of Parmigiano Reggiano, which are really very modest (about 7% of the entire sales), and the indifference of modern distribution towards the PDO mark as a result of the consumers' unfamiliarity with it.
In this respect, and also considering the second target – the protection of consumers – several factors cast doubts on the usefulness of the PDO mark when it refers to a well-known and already protected typical product such as Parmigiano Reggiano. Indeed, since the reputation of Parmigiano Reggiano is exclusively based on the Consortium mark, it is unlikely that the PDO may add anything to the relationship of trust that the Consortium has managed to create over years of promotion of its own mark.
Similar motivations lie behind the scepticism towards the fulfilment of the third target – the protection of rural areas – considering that the permanent presence of dairies and, above all, cattle breeding farms in disadvantaged areas depends on the commercial success of the product, once more guaranteed by the Consortium mark rather than the awarding of any community mark unknown to consumers.

6. Brief Conclusions

Those who have never dealt with typical products may have realised that the management of some of these is particularly complex. Even more complex, however, is the development of an all-inclusive marketing policy which may still be able to safeguard the interests of the chain members. The case of Parmigiano Reggiano is, in some respects, emblematic, for contrasting interests prevent the development of a joint commercial strategy uniting the agricultural, industrial, commercial and institutional components. If marketing operations (Mkt Mix) are based on product, price, promotion and advertising, we can observe how all of these four instruments are completely disregarded.

- There may be no product or process innovations because the product must comply with the technology described by the production regulations. The only possible innovations concern how the product is sold (grated or in wedges) and packaged. Besides, to this day, it is not possible to programme the production of cheese to be put on the market, thus making any strategy based on the control of the supply impossible.
- Pricing is not planned either. In practice, and in reality, every commercialising or distributing company may sell Parmigiano Reggiano at its own price, thus creating obvious uncertainties in the customers.
- Promotion, which should be undertaken by those who sell the product to the distributors (the dealers), is in reality directly controlled by the distribution, thus forcing suppliers to carry out promotions in line with the distributors' policies. Even when promotion is carried out by the commercialising company, the lack of known marks, together with an insufficient information policy aimed at consumers, reduces its effect to mere economic convenience, further increasing the consumers' confusion about the actual quality of the product they are going to buy.
- Given the small sizes of commercialising companies, advertising is mainly managed by the Consortium (that is, by the producers) and it is a kind of institutional advertising which tends to stress the qualitative excellence of Parmigiano Reggiano and the important role of the Consortium in its protection. At any rate, advertising

does not support the sales network in the least, for its objectives and methods are not harmoniously related to such network.

The attempts by the Consortium and some public bodies (such as Regione Emilia Romagna) to create a better organised and more efficient chain have thus failed because of a lack of communication between the different economic and institutional partners, their different objectives, the lack of large quantities of product that may ensure the development of adequate marketing strategies, and the lack of information aimed at consumers about the actual quality of the product they are buying in relation to its price.

Despite all of these obvious inefficiencies, nowadays Parmigiano Reggiano cheese is still considered the ***'KING of cheeses'*** and its enduring level of excellence is the result of the professional work and tasks of all the chain members, both from the point of view of production and from that of commercialisation, as well as the great respect for the traditions and culture expressed by this cheese and the Region that produces it.

The growing appreciation on the part of consumers witnesses how 'tradition' in the agro-food sector may represent a valid production answer to the frantic search for 'product innovation' developed by the mass food industries, and an instrument for the protection of local economies. Yet, this result may only be reached thanks to the hard work and efforts of all the different components of the production chain.

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Table 1 – Annual variation in the overall production of Parmigiano Reggiano in quantity and in value

		Year 1995	Year 1996	Year 1997	Year 1998
Fresh Parmigiano Reggiano cheese	Cheese in tons	98,523	104,896	106,985	110,128
	Price in Euro / kg	9.51	9.12	9.02	7.47
	Value in .000 Euro	936,913	957,046	965,356	822,316
Aged Parmigiano Reggiano cheese	Cheese in tons	64,896	68,966	73,427	74,890
	Price in Euro / kg	10.43	10.16	10.38	9.35
	Value in .000 Euro	677,078	700,387	762,232	700,367
Total (fresh + aged) PR on the market in one year	Cheese in tons	163,418	173,862	180,412	185,018
	Price in Euro / kg	9.88	9.53	9.58	8.23
	Value in .000 Euro	1,613,991	1,657,433	1,727,588	1,522,683

			Variation 1995/96	Variation 1996/97	Variation 1997/98
Fresh Parmigiano Reggiano cheese	Cheese in tons	Variation in %	6.5	2.0	2.9
	Price in Euro / kg		-4.1	-1.1	-17.2
	Value in .000 Euro		2.1	0.9	-14.8
Aged Parmigiano Reggiano cheese	Cheese in tons		6.3	6.5	2.0
	Price in Euro / kg		-2.7	2.2	-9.9
	Value in .000 Euro		3.4	8.8	-8.1
Total (fresh + aged) PR on the market in one year	Cheese in tons		6.4	3.8	2.6
	Price in Euro / kg		-3.5	0.4	-14.1
	Value in .000 Euro		2.7	4.2	-11.9

Source: author's processing of data by CFPR, CCIAA, Regione Emilia Romagna

Table 2 - Number of active dairies over the years in the Parmigiano Reggiano area divided by province

		1970	1980	1990	1995	1996	1997	1998
	Plain	54	28	14	8	8	7	7
	Mountains	11	10	9	8	8	7	7
Bologna	Total	65	38	23	16	16	14	14
Mantua	Plain	153	109	75	52	52	48	48
	Plain	353	206	118	71	70	68	64
	Mountains	167	135	104	83	83	81	78
Modena	Total	520	341	222	154	153	149	142
	Plain	364	259	183	177	142	138	134
	Mountains	102	85	76	54	57	54	53
R. Emilia	Total	466	344	259	231	199	192	187
	Plain	348	260	218	142	175	172	170
	Mountains	100	86	64	57	54	51	51
Parma	Total	448	346	282	199	229	223	221
Totals	Plain	1272	862	608	450	447	433	423
	Mountains	380	316	253	202	202	193	189
	Total	1652	1178	861	652	649	626	612

Source: author's processing of data by Consortium Parmigiano Reggiano Cheese

Table 3 –Milk processed over the years on average per dairy in the area divided by province (in tons)

		1970	1980	1990	1995	1996	1997	1998
	Plain	438	717	1,439	2,009	2,179	2,824	2,826
	Mountains	695	932	1,642	1,842	2,005	2,223	2,313
Bologna	Total	481	774	1,519	1,926	2,092	2,523	2,570
Mantua	Plain	871	1,406	2,588	3,232	3,421	3,703	3,886
	Plain	581	871	1,795	2,416	2,591	2,777	3,012
	Mountains	472	632	1,116	1,407	1,477	1,592	1,703
Modena	Total	546	776	1,477	1,872	1,987	2,133	2,293
	Plain	851	1,172	2,338	2,021	2,679	2,799	2,960
	Mountains	700	922	1,451	1,835	1,849	2,141	2,196
R Emilia	Total	818	1,110	2,078	1,977	2,441	2,614	2,744
	Plain	745	1,142	2,012	2,918	2,531	2,696	2,804
	Mountains	666	907	1,527	1,610	1,844	2,284	2,401
Parma	Total	728	1,083	1,902	2,543	2,369	2,602	2,711
Totals	Plain	732	1,106	2,126	2,506	2,685	2,855	3,008
	Mountains	591	794	1,340	1,596	1,701	1,951	2,052
	Total	699	1,022	1,895	2,224	2,379	2,577	2,713

Source: author's processing of data by Consortium Parmigiano Reggiano Cheese

Table 4- Parmigiano Reggiano produced over the years on average per dairy in the area divided by province (in tons)

		1970	1980	1990	1995	1996	1997	1998
	Plain	28.9	47.4	95.4	133.3	144.5	187.3	187.4
	Mountains	45.9	61.5	110.8	123.1	134.0	147.4	153.4
Bologna	Total	31.8	51.1	101.4	128.2	139.3	167.4	170.4
Mantua	Plain	57.5	92.8	175.6	222.4	235.4	245.6	257.8
	Plain	38.3	57.5	118.8	162.5	174.4	184.2	199.8
	Mountains	31.2	41.7	75.3	93.4	98.1	105.6	113.0
Modena	Total	36.0	51.2	98.4	125.3	133.0	141.4	152.1
	Plain	56.2	77.4	154.5	135.7	180.0	185.7	196.3
	Mountains	46.2	60.9	99.4	127.3	128.3	142.0	145.7
R Emilia	Total	54.0	73.3	138.3	133.8	165.2	173.4	182.0
	Plain	49.2	75.4	135.6	199.3	172.9	178.8	186.0
	Mountains	44.0	59.9	104.4	112.5	128.9	151.5	159.2
Parma	Total	48.0	71.5	128.5	174.4	162.5	172.6	179.8
Totals	Plain	48.3	73.0	142.1	170.0	182.1	189.4	199.5
	Mountains	39.0	52.4	91.1	109.0	116.3	129.4	136.1
	Total	46.2	67.5	127.1	151.1	161.6	170.9	179.9

Source: author's processing of data by Consortium Parmigiano Reggiano Cheese

Table 5 - Parmigiano Reggiano Cheese produced over the years by dairies in the area divided by province (in tons)

		1970	1980	1990	1995	1996	1997	1998
	Plain	1,560	1,326	1,335	1,066	1,156	1,311	1,312
	Mountains	505	615	997	985	1,072	1,032	1,074
Bologna	Total	2,065	1,941	2,332	2,051	2,228	2,343	2,386
Mantua	Plain	8,800	10,119	13,168	11,565	12,241	11,790	12,373
	Plain	13,527	11,841	14,024	11,540	12,205	12,524	12,785
	Mountains	5,208	5,629	7,827	7,751	8,139	8,551	8,812
Modena	Total	18,735	17,470	21,851	19,291	20,344	21,075	21,597
	Plain	20,439	20,037	28,277	24,027	25,557	25,624	26,309
	Mountains	4,711	5,173	7,554	6,876	7,313	7,669	7,721
R Emilia	Total	25,150	25,211	35,831	30,903	32,870	33,293	34,030
	Plain	17,120	19,593	29,563	28,297	30,252	30,757	31,621
	Mountains	4,396	5,150	6,682	6,415	6,961	7,727	8,121
Parma	Total	21,515	24,743	36,245	34,712	37,213	38,484	39,742
Totals	Plain	61,446	62,916	86,367	76,495	81,411	82,006	84,400
	Mountains	14,819	16,567	23,060	22,028	23,485	24,979	25,728
	Total	76,265	79,483	109,427	98,523	104,896	106,985	110,128

Source: Consortium Parmigiano Reggiano Cheese,

Table 6 –Trends of price quotations of fresh Parmigiano Reggiano in whole lot (Euro/kg)

Productions	Beginning of season	End of season	Price at beginning of season	Price at end of season	Minimum Price	Maximum Price	Average Price
Jan - Mar 1994	25/05/94	09/11/94	7.54	8.52	7.49	8.52	7.87
Apr – Dec 1994	23/11/94	18/01/95	8.68	9.55	8.68	9.55	9.13
Jan – Apr 1995	15/11/95	27/12/95	9.30	9.92	9.30	9.92	9.65
May – Dec 1995	20/12/95	28/02/96	9.22	8.99	9.22	9.40	9.33
Jan - Apr 1996	04/12/96	25/12/96	9.55	9.55	9.55	9.55	9.55
Jan - Apr 1997	12/11/97	24/06/98	9.45	8.26	8.26	9.76	9.07
May – Aug 1997	06/05/98	28/10/98	8.68	7.08	7.08	8.68	7.78
Sept – Dec 1997	04/11/98	04/11/98	8.93	7.02	6.92	7.08	6.96

Source: author's processing of Parma CCIAA data

Table 7 - – Trends of price quotations of aged Parmigiano Reggiano in parts of lots (Euro/kg)

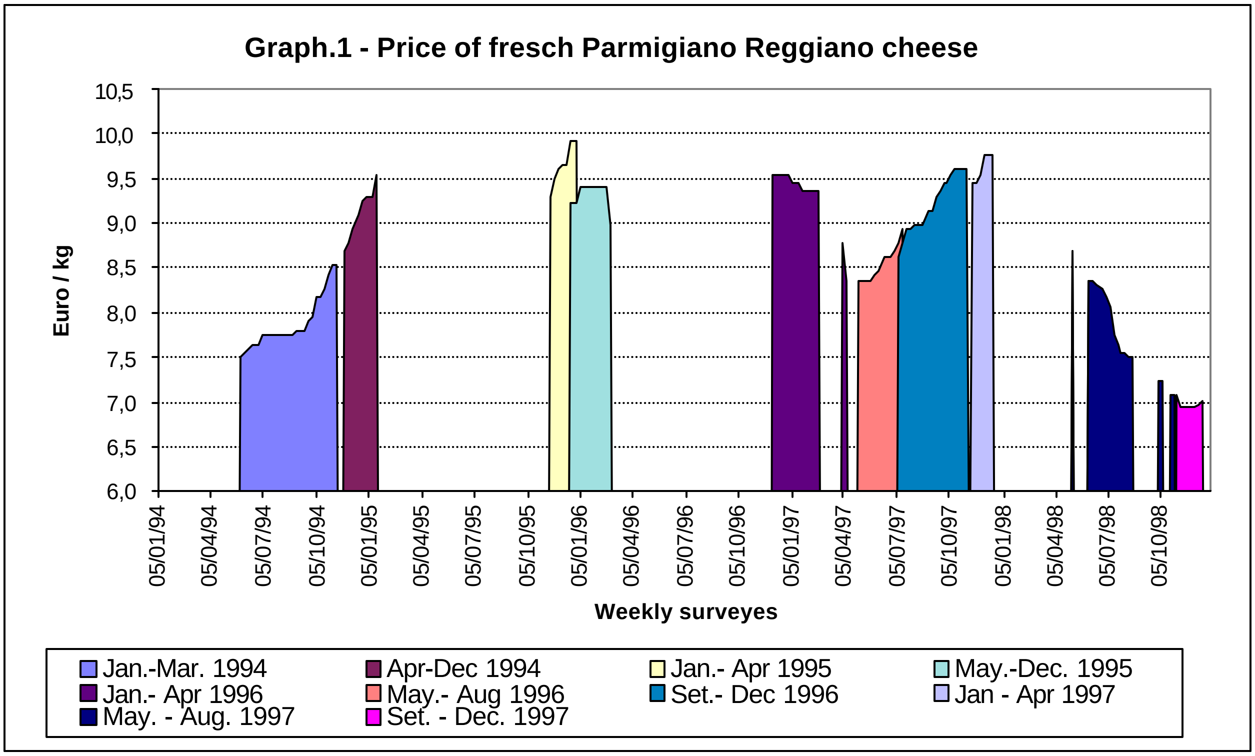
Productions	Beginning of season	End of season	Price at beginning of season	Price at end of season	Minimum Price	Maximum Price	Average Price
Jan – Dec 1992	05/01/94	15/03/95	7.23	11.93	7.23	11.93	8.98
Jan – Dec 1993	30/03/94	03/01/96	7.33	11.26	7.33	11.26	10.12
Jan – Dec 1994	25/01/95	25/12/96	9.81	10.69	9.81	10.69	10.74
Jan - Dec 1995	02/09/96	25/12/97	9.81	10.64	9.81	10.64	10.45
Jan – Dec 1996	26/11/97	16/12/98	10.33	8.31	8.31	10.33	9.45

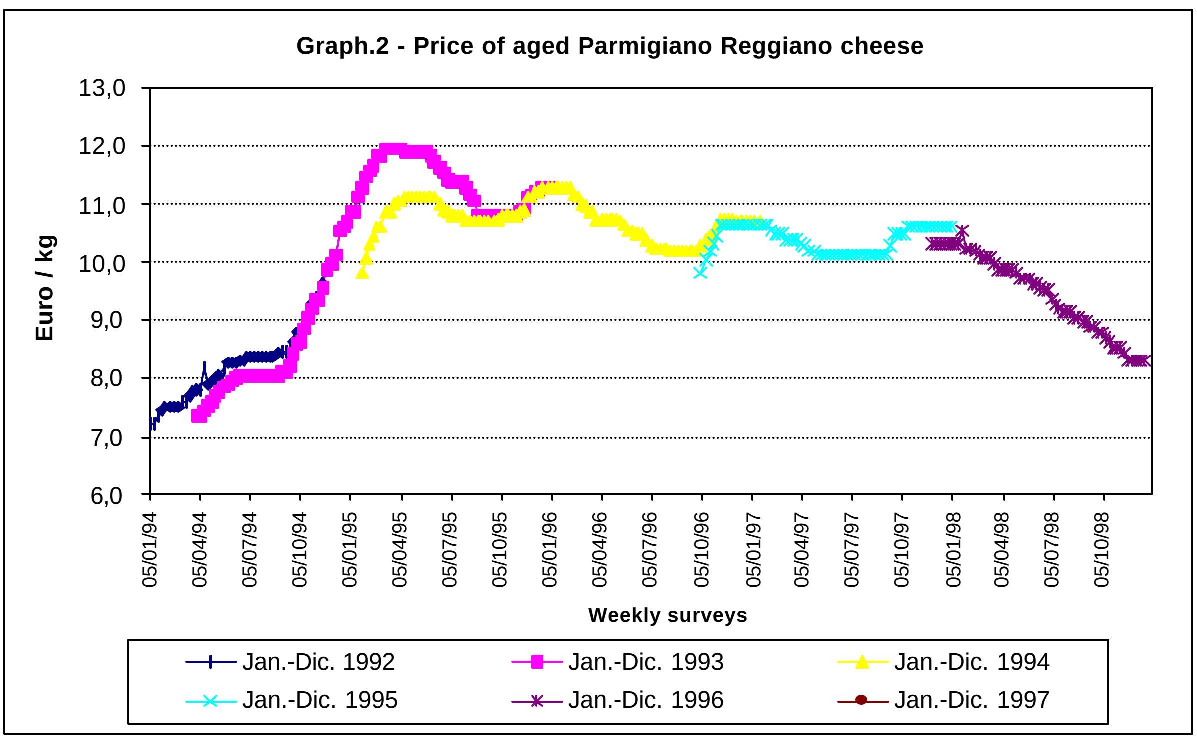
Source: author's processing of Parma CCIAA data

Table 8 – Percentage distribution of retail sales of dairy products by outlet type (Year 1996)

	Supermarkets and Hyper markets	Superette	Hard Discounts	Specialised	Traditional
Fresh Cheeses	33.0	26.6	4.7	9.1	26.5
Soft Cheeses	39.7	24.9	7.8	11.0	16.6
Semi-hard Cheeses	39.0	21.6	7.7	9.1	22.5
Hard Cheeses	**43.4**	**23.3**	**6.4**	**9.5**	**17.4**
Industrial Cheeses	45.4	28.1	4.7	6.0	15.7

Source: Nielsen data


Graph.1 - Price of fresch Parmigiano Reggiano cheese
Euro / kg
10,5
10,0
9,5
9,0
8,5
8,0
7,5
7,0
6,5
6,0
05/01/94
05/04/94
05/07/94
05/10/94
05/01/95
05/04/95
05/07/95
05/10/95
05/01/96
05/04/96
05/07/96
05/10/96
05/01/97
05/04/97
05/07/97
05/10/97
05/01/98
05/04/98
05/07/98
05/10/98
Weekly surveyes
Jan.-Mar. 1994
Apr-Dec 1994
Jan.- Apr 1995
May.-Dec. 1995
Jan.- Apr 1996
May.- Aug 1996
Set.- Dec 1996
Jan - Apr 1997
May. - Aug. 1997
Set. - Dec. 1997


Graph.2 - Price of aged Parmigiano Reggiano cheese
Euro / kg
13,0
12,0
11,0
10,0
9,0
8,0
7,0
6,0
05/01/94
05/04/94
05/07/94
05/10/94
05/01/95
05/04/95
05/07/95
05/10/95
05/01/96
05/04/96
05/07/96
05/10/96
05/01/97
05/04/97
05/07/97
05/10/97
05/01/98
05/04/98
05/07/98
05/10/98
Weekly surveys
Jan.-Dic. 1992
Jan.-Dic. 1993
Jan.-Dic. 1994
Jan.-Dic. 1995
Jan.-Dic. 1996
Jan.-Dic. 1997

Graph.3 - Cyclic trends of aged and fresch PR cheese