Analysis of Greek milk market.
Quo vadis?[*]

Adjunct Lecturer Despoina Tsakistara Ms.
Department of Accountancy
Technological Education Institute of Larissa-Greece
dtsakistara@teilar.gr

Ass. Prof.Dr. Labros Sdrolias
Department of Project Management
Technological Education Institute of Larissa-Greece
lsdrolias@teilar.gr

Ass.Prof.Serafeim Polyzos
Department of Planning and Regional Development University of Thessaly,
Volos-Greece
spolyzos@prd.uth.gr

Adjunct Lecturer Dr. Nikolaos Kakkos
Department of Project Management
Technological Education Institute of Larissa-Greece
n.kakkos@gmail.com

Abstract
The illegal synergy of independent enterprises with similar activity which aim to create monopolistic coalitions, was few years ago unusual for the Greek economic reality. However, the globalisation of market and the intense competition encouraged the appointment of dominant enterprises that achieved to create cooperation (cartel), aiming mainly to achieve higher profit for their members. The existence of such collusion in the Greek milk market will affect the local market in both financial and social ways. The enterprises which are (presumably) involved in this collusion, despite the imposition of big fines from the Greek Competition Committee, do not accept the existence of such cooperation and attribute the final high consumer's prices to the high production costs and the free market.
The present study examines the empirical determinants of fluid milk prices in the native milk market. The results fail to provide evidence of a direct correlation between the price of milk and the production prices. The study analyses also the evolution of market power in the branch of dairy products in Greece based on the estimation of Lerner indices during the period 1990-2008. The empirical results reveal that the milk market in Greece operates under oligopoly conditions, which indirectly strengthens the argument of a cartel in the milk market.

Keywords: Milk, cartel, Greek market, econometric approach

---

[*] The views expressed in this paper are personal and do not represent any other with which the authors are affiliated. So, the content of the paper is the sole responsibility of the authors.
Please address correspondence to: Despoina Tsakistara, Department of Economics, adjunct lecturer in the Technological Institution of Larissa, Greece [telephone: (0030) 2410-251668, e-mail: dtsakistara@teilar.gr].

Introduction

It is a common view that the enterprises have a motive to try to increase their profits, to acquire or to strengthen or to facilitate the use of monopolistic power decreasing the competition and the social prosperity. These actions of enterprises can take the following forms:

1 Fusions or Repurchases
2 Various forms of abusive exploitation of dominating position that they have in the market.
3 Agreements or harmonised practices between each other.

Cartels are considered to be specific productive structures which allow producers to exert a monopoly power. More specifically, cartels are included in the generic form of "collectively agreements between business agents" under an explicit or implicit way. In the first case, cartels have an explicit agreement (but usually not written) in order to affect or cause distortion on the market. In the second, there is not an agreement but the competitors follow common rules and have a common behavior which finally produces the same effect. Both kinds of conducts are illegal under the Greek competition law. Mehta K. (2005) points out that cartels often do not take the form of simple price fixing, but may for instance involve information exchange or allocation of customers, projects or geographical areas to individual firms, which might be possible to detect. There are certain industries (socio – economic enterprises) that are *de facto* exempt from antitrust laws, such that cartel behavior is prevalent and openly observable.

In the present article we will not address general debate about competition and monopoly but our precise aim is to detect the existence of some anticompetitive conducts among the more important industries of Greek fresh milk market[1] and to look for the specific characteristics and to evaluate them under the light of this approach. The detection of a cartel is difficult to be established due to the illegal nature of cartels. Still, indices of market power such as the Lerner index can provide some indirect evidence regarding the structure of the studied market. The results of our analysis indicate that the Greek milk market is characterized by oligopolistic conditions, which is supportive of the argument of the existence of a cartel in the Greek milk market.

The paper is organized as follows. Section 2 describes the basics of cartel characteristics and provides a literature review of international cartels. In section 3 a retrospection of the facts in Greek milk market and a brief description is presented. Section 4 presents the empirical results using econometric models on the determinants of milk prices, Lerner indices and concentration. Finally, section 5 concludes.

The Basics of Cartel Performance

Cartels are generally considered negatively since the obvious incentive for such group activity is the higher profits associated with monopolistic practices[2]. In Greece, antitrust laws make cartelization of

---

[1] Industries of milk-based products are excluded

[2] According to few papers [Pascal Salin: "Cartels as Efficient Productive Structures", *The Review of Austrian Economics*, vol. 9, no. 2, (1996): 29-42] the cartels are not necessarily considered negatively as formal arrangements to restrict production but after having discussed this approach they explain why cartels rather play a positive role in meeting some specific demands of the market. As a consequence they modify the frontier between the firm

industries illegal *per se,* such that openly observing cartel behavior is difficult. Empirical research on cartel formation is therefore limited to evidence gathered from cartels operating in a legal (or tolerant) environment or from evidence collected in anti-trust prosecutions or from unsuccessful cartels[3]. Mehta (2005) and Okada (2005) underline the importance of leniency programs in fighting collusion, and in their context, they refer to the limited resources of antitrust authorities. Thus leniency programs cannot only help in detecting conspiracies but play a significant role in gaining hard evidence after an investigation was started.

The cartel is sometimes considered as worse than the monopoly. In fact, it is often assumed that a monopoly exists for purely technical reasons, for instance because techniques are such that large economies of scale make it impossible for several firms to coexist in the most profitable way (natural monopoly). In such case no normative judgment is issued against the monopoly, but it is argued only that the state has to prevent the assumed "exploitation" of consumer's by regulating the monopoly or by nationalizing it. The value judgment concerning cartels is more critical since it is assumed that there is no technical reason for any monopolist position, but that the cartel is created *ex nihilo* by an explicit agreement between producers in order to exploit purchasers.

The longer a cartel operates the more likely that it will establish industry practices or barriers that facilitate collusion in the future. Barriers to entry created by the cartel, either through tariffs, patent pools, or distribution agreements will not necessarily disappear with the cartel's demise and may well limit future entry and stifle innovation.

International Cartel

There are a variety of organizations that could plausibly be described as international cartels such the so-called "hard-core" cartels (made up of private producers from at least two countries which cooperate to control prices or allocate shares in world markets), private export cartel (where independent producers from one country take steps to fix prices but not in their domestic market) and exports cartels.

In the next page, Table 1 presents some information regarding known cartel markets in the European Union countries during the 1990s[4]. The original results in the study provide information on all international cartels[5]. The typical international cartel of the 1990s had firms from two or three countries. Some cartels included firms from four or five countries, and in the case of shipping cartels, as many as thirty countries[6].

---

and the market.

[3] The actual success or failure of a cartel in any industry depends on a host of factors, such as the legal environment, economic conditions, the terms of the cartel agreement, managerial skill and industry history.

[4] As expected, given that these are Department of Justice (DOJ) and European Commission (EC) cases, most are European and US firms. It is not unusual, however, to find Japanese or South Korean participation.

[5] These cartels have annual sales of well over $30 billion, their members included some of the largest corporations in the world and operated in a variety of industries. There are forty cartels in the original sample, with participants from over thirty countries.

[6] Between European Commission and US

Table 1: Countries with firms convicted of price fixing by the European Commission during the 1990s

Austria	Carton board, citric acid, newsprint, steel heating pipes
Belgium	Ship construction, stainless steel, steel beams
Britain	*Aircraft*, steel beams
Denmark	Shipping, steel heating pipes, sugar
Finland	Carton board, newsprint, steel heating pipes
France	*Aircraft* , cable-stayed bridges, Carton board, citric acid, ferry operators, *methionine*, newsprint, *plasterboard*, steel heating pipes, seamless steel tubes, vitamins
Germany	*Aircraft* , graphite electrodes, Carton board, citric acid, aluminium phosphide, lysine, *methionine*, newsprint, pigments, *plasterboard*, steel heating pipes, seamless steel tubes, vitamins
Greece	Ferry operators[7]
Ireland	Shipping, sugar
Italy	Carton board, Ferry operators, newsprint, stainless steel, steel heating pipes, seamless steel tubes
Luxembourg	steel beams
Netherlands	Carton board, citric acid, ferry operators, ship construction, *sodium gluconate, tampaco fibre*
Norway	Carton board, explosives, ferrosilicon
Spain	*Aircraft*, Carton board, stainless steel, steel beams
Sweden	Carton board, ferry operators, newsprint, stainless steel
Switzerland	Citric acid, laminated plastic tubes, steel heating pipes, vitamins

Source: Levenstein and Suslow (2001, Table1). Note: Products in italics are under investigation.

Figure 1 shows the pattern in duration for the 1990s sample of international cartels. The average duration of cartels in the 1990s sample of DOJ and EC prosecutions is six years. Average duration is generally in years, not decades; there are cartels that do survive decades, others that can't get started, and many in between.
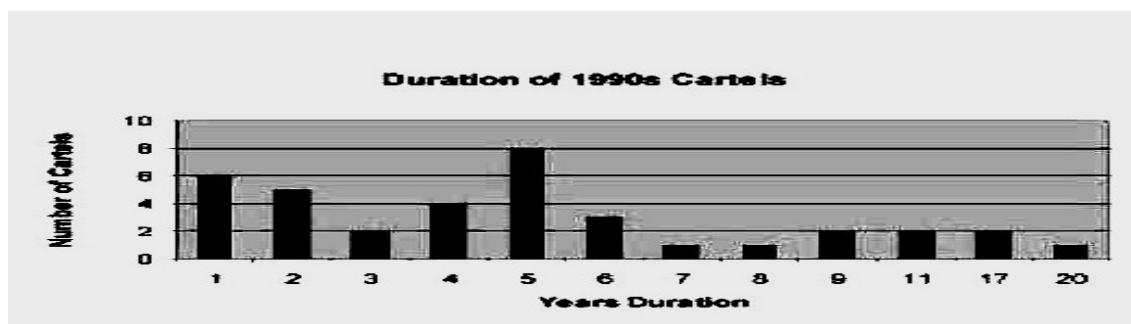
Figure 1: International Cartel Duration in the 1990s
Source: Levenstein and Suslow (2001, Table1).

---

[7] From the beginning 2007 the Greek Committee of Competition has issued three decisions on violation of rules of competition and she imposed fines of total height 22,6 million euros while she is to judge the affair of cartels of Banks, companies of cars and companies of fuels.

In its 1997 Annual Report, the World Trade Organization (WTO) highlighted the growing significance of international cartels for policymakers, noting that "there are some indications that a growing proportion of cartel agreements are international in scope"[8]. Increasing trade liberalization may, by increasing competition in formerly protected national markets, have increased firms incentive to participate in cartels. These cartels undermine international integration and decrease the benefits of liberalization if citizens believe that private barriers to trade will simply replace government-created ones.

There can be little doubt that the operation of EU competition policy has been modernized, through the reforms introduced by Regulation 1/2003, to ensure both greater clarity and consistency and to provide more efficient decision-making. This revolutionary reform has been well received and accepted as an essential step to achieving the objective of undistorted competition.

Recent investigations and prosecutions of international cartels make clear two important points. First, cartels are neither relics of the past nor do they always fall quickly under the weight of their own incentive problems. Even where cheating eventually undermines collusion, consumers may have been burdened by years of increased prices, and barriers to entry may have been created by strategic cartel behavior. Second, aggressive prosecution of cartels can deter collusion, but only where sufficient international cooperation exists to gather evidence and establish jurisdiction so that cartel participants actually have something to fear.

The Basic Characteristics of Greek Market

The examined branch of dairy products is one of the biggest production areas in the native market. Alimentary habits of Greek consumer, classify the dairy products in the more basic types of nutrition. Important stage in the course of branch was the application of quotas system in 1984, which determines the total production of cow's milk in all countries of EU. In order to be discouraged the additional production, is applied additional contribution in deliveries that exceed quantities of report. Greece was included in this system, despite the fact that her domestic production was not sufficient for the cover of its consumption.

The domestic market in the fresh pasteurised milk is characterized by high concentration, while small number of enterprises covers the bigger part of consumption. According to estimates of market, the "Delta Industry of Milk S.A." covered share about 42% on the total consumption of fresh milk (white and chocolate milk) in 2005, and "Fage Industry of Milk S.A." extracted share of order 17%, "Mebgal S.A." occupied the 15%, while important presence had also "Agno Industry of Milk S.A.", "Dodoni S.A." "Olympos S.A." and "Neogal S.A.".

The dairy products constitute basic foodstuff and their demand present relatively low elasticity as for the price and the available income. The turn of consumers in healthier ways of diet, the rise of level life and available income strengthened the total consumption of dairy products and more specifically of products with high added value.

---

[8] World Trade Organization (1997)

In the past few years the companies of dairy products provide, as means of promotion of their products[9], discounts or credits to the supermarkets where the last exploiting the high sales that they realise, press for bigger time intervals of credit and higher rates of discounts. The discounts that finally provide the big enterprises of the examined branch differ depending on the way of payment and more generally the type of agreement between two parts and they fluctuate between 20%-25% on the wholesale price for the big chains of supermarkets while in the small points of sale they are shaped in lower levels. The given credits fluctuate on average mainly from the big dairy-farms, between 3-4 months. Figure 2 shows the producer's and consumer's prices which were shaped the last 18 years.
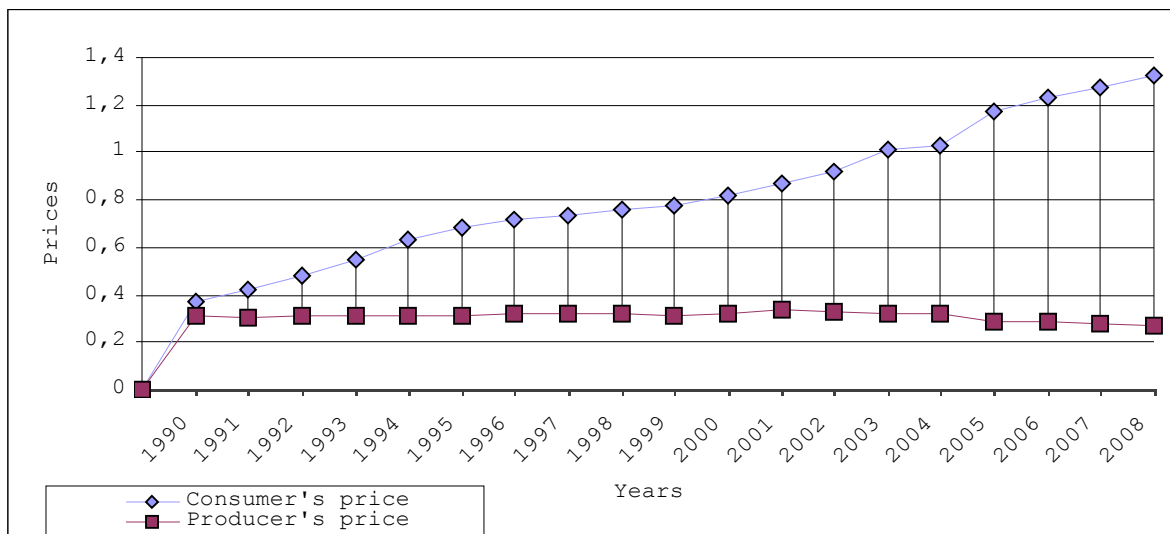

Figure 2: Consumer's and Producer's prices

Retrospection to the Facts of the Greek Milk Market

From the late 1980s to 2006 major firms in the industry of milk started to organize specific actions to stabilize the prices of the milk at above market levels. The attempts of the industries to secure above-market-level prices met with limited success because of divisions within each cartel over strategy (the cartel in Greek market of milk has been revealed when part of the firms did not follow to a move of the competitor, so they could lose significant market share and profits), the large number of producers, external competition, the impact of restrictive trade practices and antimonopoly legislation which tried to weak further the cartels[10].

There are factors which justify a part of high price but they are not completely responsible for it, such:

1 The size of the farm and the exploitation of economies of scale (25 cows/farm in Greece).
2 Community quota (82kg/person in Greece, 348kg/person in Germany, 447 kg/person in France) which increase technically the price of milk.
3 The margin of retail profit that is debited in the consumer.

---

[9] Their products are placed in better points in the shelves/refrigerators of supermarkets.
[10] According to decision of the Greek Justice

4 Producer price does not altered considerably among the countries of European Union (30.14€/100lt in Greece, 30.20€ /100lt in France, 31.82€ /100lt in Germany)

5 The morphology of ground and the climatic conditions intensify the lack of sufficient connection between the farms and the pasture lands. The possibility of free pasturage and diet of animals is limited and depends from the buy-transported precise forages.

6 The cost of collection depends from the number of units and the geographic dissemination (Greece 6.73 €/100kg, Europe 2 €/100kg)

7 Cost of transport in combination the road network (Greece 2.59 €/100kg, Europe 1.2 €/100kg)

Figure 3: Sales of dairy products-2005

The Greek Competition Committee accused nine industries in 2006, for forming a cartel and more specific, for "horizontal collusion, so as to impose prices to the producers and share the market of fresh milk" as for the "vertical collusion with super markets for the determination of single retail price in pasteurized milk".
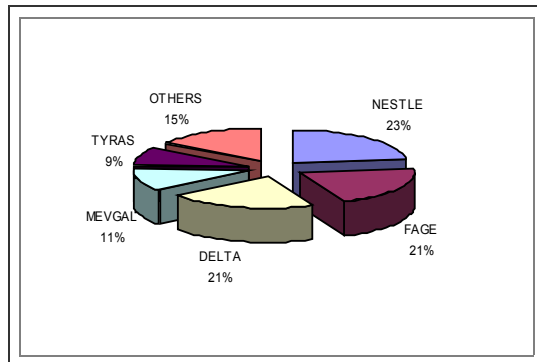
Fluid milk market orders are routinely criticized by many because they force consumers to pay higher fluid milk prices. Delta - Vivartia, Mevgal, Olympos, Fage, Nestlé of Greece were also attacked as a cartel that if eliminated would result in lower prices to consumers. The above figure (Figure 3) shows clearly the share market of the biggest industries in Greek milk market for the year 2005. As it is shown, the three biggest industries (NESTLE, FAGE, DELTA) share a little over the 60% of the native milk market.

The competition in the sector of dairy products strengthened further by the activation of enterprises of providence which are differentiated strategically appearing a profile of traditional operation and exploitation, the biological products and products P.O.P., P.G.E. and E.P.P.E. Worth in quality and superiority in only Greek products succeeded to give a few associations in dairy products market. So, many Associations[11] undertake, on the basis of coordinated enterprising plan, with proper organization, healthy function and creation of continuously new investments, the disposal of milk of Greek producers strengthening in this way their income. Statisticals reveal that the smaller enterprises are developed more rapidly as the total income increase at 8.8% for 2006 opposite 4.7% in the big enterprises. It is worth here to be mentioned that milk in Greek market is not important private label food category contrary to other markets in European Commission and US[12]. On 2006, PLs

---

[11] Agrarian Associations (EAS) of this kind are of Kalavrita, Agrinio, Iraklio, Evol, Dodoni.

[12] In fact, about one of every five items sold in US supermarkets, drug chains, and mass merchandisers are private labels (PL), reaching approximately $52 billion in sales, accounting for 16,3% of sales including food products (PLMA, 2003). This percentage is, however, much longer in some European countries such as France (21,7% of sales), Germany (25,7%) and Great Britain (37,4%). A few articles investigated the impacts of PLs on fluid milk prices and price differentials using thousands observations from many countries. Non-parametric results reveal that although PLs milk prices decrease as PL milk shares expand, eventually the effect is to increase the prices of manufacturers' brands. Econometric results further reveal that supermarkets exert some degree of price discrimination through controlling the brands of milk sold.

had share of fresh milk market in Attica only 6.2%, Macedonia-Thraki 3.8%, the central Greece 3.5%, Peloponisos 3.6% and Crete 5.8%.

Finally, on December 2007 the Committee of Competition decided rigorous punishment and fines which exceed 48 million Euro (the biggest since her foundation) against seven big industries of dairy products[13]. What is pending henceforth is the publication of decision on the vertical cooperation in the market of milk and yogurt.

Econometric Model and Data

In the first part, regression techniques are utilised to examine whether the market price of milk is affected from producer costs. Producer costs are the primary source cost the milk industries have to face. Unfortunately, limitations in the availability of data prevent from a more detailed econometric model. The data are derived from the Ministry of Growth and Commerce, the Ministry of Agriculture Growth, ICAP and from own elaboration, for the years 1990-2008. OLS regression techniques are employed.

The dependent variable in the model is the annual consumer price of milk (paper packing of kg) as provided by all the above. We assume that supermarkets appear to have in wide latitude the same pricing milk and when we refer to "milk" we mean the fresh milk, pasteurized milk and UHT (ultra high temperature) milk.

As independent variables are introduced the: total production of milk (in thousands of tones), the producer price of milk (in Euro), and a yearly dummy taking the value of "1" for the years 2000-2008 and "0" otherwise. The reason for the introduction of the year dummy, as shown in Figure 4, is the fact that approximately at the beginning of the decade, the evidence indicates the probable formation of a collusion among the milk industries. Furthermore, as it is shown in Figure 4, regarding the annual time series of the consumer milk price, from 2000 onwards there seems to be a stable upward trend of the milk price.
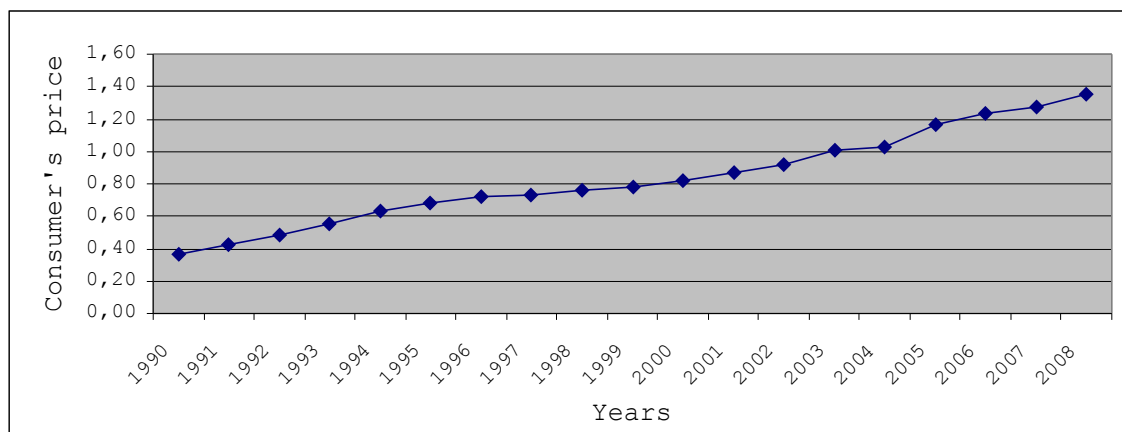

Figure 4: Consumer's Price
Evidence of heteroskedasticity was found after performing the Breusch-Pagan test (BP test statistic: 9.81, thus rejecting the null hypothesis that the residuals are homoskedastic). Heteroskedasticity might also be indicative of misspecification problems in time series models, such as misspecification of the functional form of the model, omitted variable

---

[13] Discharged the firms of Sergal and Rodopi.

bias, etc. Furthermore, the Durbin-Watson statistic (DW statistic (4, 17): 1.10) indicated that there is evidence of autocorrelation in our model (Wooldridge, 2000). When the standard errors need to be corrected for both heteroskedasticity and serial correlation, a popular method used by researchers is the Newey-West method. The Newey-West heteroskedasticity and serial-correlation-robust standard errors have the advantage that they are robust to more general forms of serial correlation (Wooldridge, 2000).

Table 2 provides the regression results and the tests statistics of the regression regarding the determinants of consumer milk price in Greece. The regression model, although it presents some satisfactory test statistics, fails to relate consumer milk prices with a major factor that should affect the prices; namely, the producer cost. However, the production volume is found to negatively affect the milk consumer price. It is possible that unobserved heterogeneity is responsible for such findings, thus unobserved factors mediate in the relationships of interest and biases the findings. Therefore, one might conclude, that other factors that are not controlled for in the regressions affect in a strong way the formation of consumer milk prices.The appropriate way for a researcher to examine the market power in a specific sector would be to calculate indices of market power, such as the Lerner index, which will be the focus point of the analysis that follows.

Table 2:

Independent variables	Regression on the determinants of milk consumer price, 1990-2008 Coefficient
Production	0.00001 (5.74)*
Producer price	-1.74 (-0.88)
Year dummy (2000+)	0.19 (2.63)
Constant	2.87 (-2.70)
F-statistic	16.08 (0.00)
Observations	17

* In the parenthesis the *t*-statistics are provided. Errors are corrected for heteroskedasticity and serial correlation by computing the Newey-West robust standards errors.

Empirical Approximation to the Lerner Index

The Lerner index is one of the most popular measures of the degree of the market power. The Lerner index is calculated as:

$$L = \frac{P - MC}{P}$$

where P: is the product price and MC: the marginal cost of the enterprise. The marginal cost is calculated from the specification of a translogarithmic cost function. In specific, the dependent variable in this model is the total costs (in this case, based on the availability of

data we calculate total costs from suppliers' price and personnel costs) and the independent variable is the production of milk. Hence, the estimated coefficient provides a measurement of marginal costs (de Guenevara et al., 2002)[14]. The index allows for examining the extent to which the monopolists can exert market power as to fix a price above margin cost. Therefore, in the case of a market operating under perfect competition the Lerner index should be zero. On the contrary, when the market is monopolistic the index should be one. When the index has values close to one, it is a sign of an oligopolistic or collusive market.
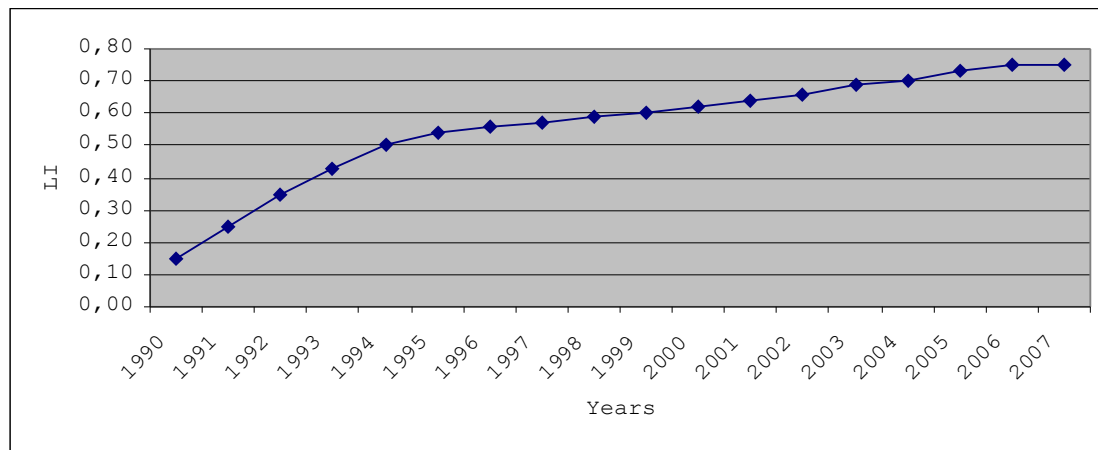

Figure 5: Lerner Index, 1990-2008

Table 3 presents the annual computations of the Lerner index in the Greek milk market and Figure 5 presents the time series data for the Lerner index in the period 1990-2008.

Table 3:

Years	*Lerner index*	*Years*	*Lerner index*
1990	0.15	2000	0.62
1991	0.25	2001	0.64
1992	0.35	2002	0.66
1993	0.43	2003	0.69
1994	0.50	2004	0.70
1995	0.54	2005	0.73
1996	0.56	2006	0.75
1997	0.57	2007	0.75
1998	0.59	2008	0.76
1999	0.60		

It is easily shown that the Lerner index exhibits a gradually upwards tend through the examined time period, with the degree of market power increasing gradually especially in the decade of 2000. Furthermore, the values for the Lerner index especially in the '00s indicate that the market is characterized by oligopolistic or collusive conditions,

---

[14]   Since the empirical approximation of the Lerner Index is found quite often in related literature and due to space consideration, the regression results are not presented here. However, they are available from the authors' upon request.

providing this way some weak arguments but still in favour of the existence of a cartel in the native milk market.

In the next stage, in order to examine more thoroughly the market power of the milk market in Greece, concentration indices are constructed regarding the market share that the three bigger milk enterprises enjoy through the time period of examination.
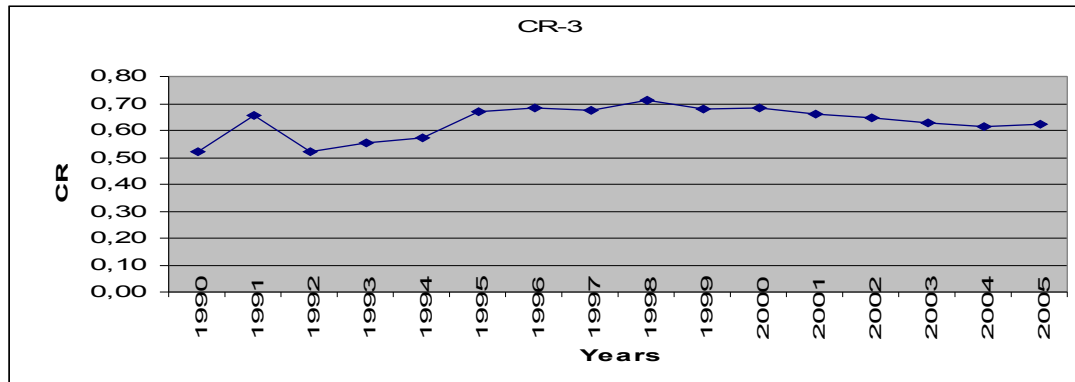

Figure 5:

In Figure 5, the time series for the Concentration Ratio of the three enterprises that hold the biggest market shares (based on total profits) are examined for the years 1990-2006. It is shown that even since 1992 there is an upward trend in market shares, this trend is reversed from 1998-2003 and then the market shares start to rise again. Unfortunately, the limitation in data limits the ability to study the market shares for more recent years.

Table 4 presents the regression results on the effect of Concentration Ratios upon the Lerner Index. The time period studied is 1990-2006 and the standard errors seem to suffer from heteroskedasticity when conducting the Breusch-Pagan test (test value: 4.72).

Table 4:

Independent variables	Regression on the effect of Concentration Ratio (CR-3) on Market Power (Lerner Index) β Coefficient
CR-3	1.27 (3.69)*
Year dummy (2000+)	0.19 (3.14)
Constant	-0.34 (-1.45)
F-statistic	11.43 (0.00)
Observations	16

*In the parenthesis the *t*-statistics are provided. Errors are corrected for heteroskedasticity.

Furthermore, evidence of autocorrelation is detected when examining the Durbin-Watson statistic (DW statistic (3, 16): 0.89). As previously, in order to correct standard errors for both heteroskedasticity and serial correlation we utilize the Newey-West standard errors (Wooldridge, 2000).

As expected the higher the market share that is enjoyed by the biggest three enterprises, the higher is the market power. This is a finding in line with several previous studies (in other market fields) that support the positive relationship between high concentration and limited market power. Therefore, it is safe to conclude that high concentration seems to be one of the strong determinants of low market power in the Greek milk market. A more thorough investigation of the remaining determinants of market power is not possible, due to limitations of the data.

Concluding Remarks

To summarize and answer the title question *quo vadis,* I think we need, a good model of price wars (so as to investigate better the moves and the countermoves in the milk war), a better understanding of the inner workings of cartels and of the price fixing agreements and it is important to consider the independency between the various players. The survey did not draw much attention to questions like interaction between cartel behaviour and competition policy, as e.g., leniency programs remains a relevant topic. The analysis of collusion among oligopolistic firms will continue to be an exciting area of industrial economics.

Widespread collusion in this industry has affected the milk market and this might be not a concern if national anti-trust laws provided a sufficient deterrent to any cartel. Now, the Ministry of Justice has the reason.

The detection of a cartel in a specific market is not an easy issue to investigate, exactly due to the illegal nature of cartels and the actions of the participants to hide it. However, we were able to provide evidence for the existence of an oligopolistic milk market in Greece, which can (indirectly) increase the probability of cartel formation. In addition, the data indicate that market power is positively and strongly affected by the observed concentration that characterizes the market.

The research questions that were confronted in this analysis were hampered by the limited availability of data and although the probability of a milk market cartel in Greece seems to be a very interesting research issue, more data should be available in order to shed some light on this issue and to facilitate a more thorough research.

References

Adams, W., 1987, "Countervailing power, in Eatwell, J., Milgrate, M. and Newman, P. (eds)," *The New Palgrave: A Dictionary of Economics*, Macmillan, London.

Anderson, K. B., 1993, "Structure-performance studies of grocery retailing: a review, in Cotterill, R.W. (ed.),"*Competitive Strategy Analysis in the Food System,* Westview Press, Boulder, Colorado, pp. 203-219.

Baker, J.B., 1997, *Econometric Analysis in FTC v. Staples*, before American Bar Association's Antitrust Section, Economics Committee, 18 July 1997, Washington DC.

Berto Villas-Boas, 2002, "Vertical Relationships Between Manufacturers and Retailers", Ph.D. Dissertation, University of California at Berkeley.

Berto Villas-Boas, "Vertical Contracts Between Manufacturers and Retailers: Inference with limited data", Department of Agricultural & Resource Economics, University of California at Berkeley. Available from

URL: http://repositories.cdlib.org/are_ucb/943R2 [accessed 26 Sept 2005].

Bonnano, A. and Lopez, R.A, "Private label expansion and supermarket milk prices," *Journal of Agricultural & Food Industrial Organization*, vol. 3. Available at http://www.bepress.com/jafio/vol 3/issue/art2

Byeong-II Ahn and Summer, D., July 2006, "Assessment of the political Market Power of Milk Producers Reflected in U.S. Milk Pricing Regulations".

Cabral, M.B.L., 2005, "Collusion Theory: Where to go next?," *Journal of Industry, Competition and Trade*, vol. 5 no 3, p.p. 199-206.

Chevalier, J.A., 1995, "Capital structure and product-market competition: empirical evidence from the supermarket industry," American Economic Review 85, 415-435.

Chidmi, B., R.W. Lopez, and R.W. Cotterill, July 27-30 2003, "Retail Oligopoly Power and Fluid Milk Prices in Boston", Paper presented at the American Agricultural Economics Association Annual Meetings, Montreal, Canada.

Church, J. and Ware, R., 2000, "Industrial Organization. A strategic Approach," *McGraw-Hill Companies*, vol. 1 and 2.

Commission of the European Communities, Guidelines on the assessment of horizontal mergers under the Council Regulation on the Control of Concentrations between Undertakings, Brussels, Belgium. Available from URL: http://europa.eu.int/comm/competition/mergers/ legislation/regulation/implementing [accessed 22 September 2005].

Cotterill, R.W., 1986, "Market power in the retail food industry: evidence from Vermont", *Review of Economics and Statistics*, vol. 68, 379-386.

Cotterill, R.W., 2003, "Fluid milk market channel pricing: Monopolistic Pricing by Retailers Hurts Processors, Farmers, Consumers, and Federal Market Order Pricing", *Food Marketing Policy Center*, no.40.

Cotterill, R.W., "An econometric analysis of brand-level demand for breakfast cereal: product market definition in unilateral market power effects", *Expert Report in State of N.Y.v. Kraft General Foods 93 civ.0811 [KMW]*, New York.

Cotterill, R.W. and Dhar, T., 2003, "Oligopoly pricing with differentiated products: the Boston fluid milk market channel", *FMPC Research Report 74*, University of Connecticut, Storrs.

Cotterill, R., 2006, "Antitrust analysis of supermarkets: global concerns playing out in local markets," *The Australian Journal of Agricultural and Resource Economics*, vol.50, p.p. 17-32.

Cotterill, R. and Dhar, T., 2003, "Oligopoly pricing with differentiated productsQ the Boston fluid milk market channel," *FMPC Research Report 74*, University of Connecticut.

Dairy Chapter of the OECD Agricultural Outlook 2004-2013.

De Guenevara, J.F., Maudos, J., Perez, F., 2002. "Market Power in European Banking Sectors", IVIE Working Paper 2002-05.

Dhar, Tirtha P., 2001, "Two-State Oligopoly Pricing with Differentiated Product: The Boston Fluid Milk Market", University of Connecticut, Storrs, Ph.D. Dissertation.

Dobson, P. and Waterson, M., 2005, "Price Flexing and Chainstore Competition', *Proceedings of the 32nd Conference of the European Association for Research in Industrial Economics*.

Evenett, S., Levenstein, M. and Suslow, V., 2001, "International Cartel enforcement: Lessons from the 1990s", *Blackwell Publishers Ltd*.

Feuerstein, S., 2005, "Collusion in Industrial Economics – A Rejoinder," *Journal of Industry, Competition and Trade*, vol. 5 no 3, p.p. 235-239.

Franklin, G. and Mixon, Jr., 1996, "Legal cartels and social contracts. Lessons from the economic foundations of government," *International Journal of Social Economics*, vol. 23 no 1, p.p.37-46.

Galizzi, G., L. Venturini, and S. Boccaletti,1997, "Vertical Relation-ships and Dual Branding Strategies in the Italian Food Industry," *Agribusiness* 13: 185-195.

Geithman, F.E. and Marion, B.W., 1993, "Testing for market power in supermarket prices: a review of the Kaufman-Handy/ERS Study," in Cotterill, R.W. (ed.), *Competitive Strategy Analysis in the Food System,* Westview Press, Boulder, Colorado, pp. 253-292.

Griffith, G.R., 2004, "The impact of supermarkets on farm suppliers," *Australian Economic Review* 57, 329-336.

Harrington, Jr., J. E., February 2005, "Optimal Cartel Pricing in the Presence of an Antitrust Authority," *International Economic Review,* vol. 46, No 1, p.p. 145-169.

Hein, D.M., 1980, "Markup pricing in a dynamic model of the food in-dustry," A*merican Journal of Agricultural Economics* 62, 10-18.

Ivaldi, M., Jullien, B., Rey, P. and Tirole, J., 2003a, "*The Economics of Tacit Collusion,"* IDEI Final Report for DG Competition, European Commission, Brussels, Belgium.

Levenstein, M. and Suslow. V., 2002, "What Determines Cartel Success?," in P. Grossman (ed), How Cartels Endure and How They Fail (Edward El-gar, forthcoming).

McCorriston, S., 2002, "Why should imperfect competition matter to ag-ricultural economists?," *European Review of Agricultural Economics* 29, 349-371.

Nevo, A., 2001, " Measuring marketing power in the ready-to-eat cereal industry", *Econometrica* 69, 307-342.

Mehta, K., 2005, "Comments on Switgard Feuerstein's Collusion in Indus-trial Economics – A survey," *Journal of Industry, Competition and Trade*, vol. 5 no 3, p.p. 217-222.

Miller, J.P. (1962), "Competition, cartels and their regulation", (Ams-terdam).

Okada, Y., 2005, "How to fight hard core cartels? Comments on collusion in Industrial Economics," *Journal of Industry, Competition and Trade*, vol. 5 no 3, p.p. 223-229.

Porter, R.H., 2005, "Collusion in Industrial Economics – A comment," *Journal of Industry, Competition and Trade*, vol. 5 no 3, p.p. 231-234.

Porter, R.H., and Zona, D., 1999, "Ohio school milk markets: An analysis of bidding," *Rand Journal of Economics,* vol. 30, p.p. 263-288.

Putsis, W. P. Jr, and R.W Cotterill, 1999, "Share, Price and Category Ex-penditure – Geographic Market Effect and Private Labels", *Managerial and Decision Economics* 20: 175-187.

Raymond V., and McNally V., "Problems of Cartel Policy", *The American Journal of Economics and Sociology, Blackwell Publishing Ltd.*

Salin P., 1996, "Cartels as efficient Productive structures", *The Review of Austrian Economics*, vol. 9, no. 2, pp. 29-42.

Tirole, J., 1988, "A theory of Industrial Organization", The MIT Press, Camgridge, MA.

Tsokhas, K., 2000, "The rise and decline of an International zinc and lead cartel, 1945-75," *Australian Economic History Review*, vol. 40 no. 3.

Verbeck, M., 2002, "A guide to modern Econometrics", KU Leuven and Tilburg University, 2000

Wooldridge, J.M., 2000. "Introductory Econometrics", (eds.) South Western College Publishing, USA.

http://www.defra.gov.uk/foodrin/milk/supplychainforum/pdf/pvavra/pdf
http://www.paseges.gr
http://www.statistics.gr
http://www.sourceoecd.org
http://www.hellastat.gr

http://www.eurostat.com
http://www.investox.net
http://www.europa.eu
http://www.ypan.gr
http://www.minagric.eu
http://www.dolnet.gr
http://www.ta-nea.dolnet.gr
http://www.kathimerini.gr
http://www.naftemporiki.gr
http://www.enet.gr
http://www.ethnos.gr
http://www.adesmeytos.gr