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THE FOOD SYSTEM IN TRANSITION: AN E.U. PERSPECTIVE

by
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The Food System in Transition: An E.U. Perspective

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1. Introduction

New and more complex food systems are emerging in Europe. Issues such as food safety and quality, structural changes and more sophisticated strategies at each stage of food system as well as the strategic role played by increasingly powerful retailers all contribute to a picture of growing complexity in the industrial organization of food systems. The purpose of this paper is to individuate and analyze the determinants and consequences of the main stylized facts that characterize the evolution of food systems in Europe. We will focus on three key questions: the evolution of food demand, the process of change in the competitive environment of retailing and the consequences of retail consolidation and retailers strategies for vertical relationships in food chains. In particular, I will concentrate on the consequences of retail consolidation on static, allocative and dynamic efficiencies. Wherever useful, explicit comparison with United States will be made in order to develop useful insights.

The paper is organized as follow. In the next Section, we focus briefly on the patterns of food demand. Section 3 outlines some key trends in the retail industry. In Section 4, we examine the main consequences of retailing consolidation and retailers power for the changes of vertical relationships in food chains. The debate and the empirical evidence about the welfare implication of retailers power are examined in Section 5. Section 6 examines the implications of the main findings for public policies and the desirable avenues for future research. Some final remarks conclude the paper.

2. Evolution and changes of food demand

European consumers are changing fast their behaviour. According to Gracia and Albisu (2001) food consumption patterns in the European Union countries are characterized by four key trends: (1) a decrease in the proportion of expenditure allocated to food already reaching very low levels; (2) a maximum level in total food consumption, in quantity terms; (3) a shift in the food consumption structure; and (4) an increase in the proportion of food consumed away from home.

European consumers are increasingly turning to more value added convenience and processed food. Food consumption, in quantity terms, increases slightly whereas total expenditure tend to rise fueled by sales of prepared and convenience foods. Sales of ready-meals are growing, new categories such as 'weight control foods' are springing up and new products are gaining currency based on new food concepts, new ingredients, different flavors, better taste.

The factors behind such changes are well known and can be indicated in higher incomes, changing demographic and social characteristics as well as changing lifestyles. New technologies, such as microwave ovens enable these changes. A particularly relevant role is played by the growing value of time. The amount of time spent in preparing meals at home has been reduced. Not surprisingly, this has resulted in a higher demand for quick, easy-to-prepare meals. Hence, the increasing use of convenience food, highly prepared foods, ready-to-eat meals. Rising income, the increase in the number of two-income households have caused European consumers to demand more added-value food products, higher quality and more variety. As noted by Gracia and Albisu (2001), European consumers demand food not only for nourishment reasons, but also for enjoyment, ethics, culture, safety, prestige, impulse. Consumption choices are increasingly influenced by healthy and nutritive values, and particularly by attributes related to food safety. European consumers are increasingly concerned on health problems associated with the diet and the safety of food products.

More specific traits in food demand have also been individuated. Cross-cultural influences due to migrants and tourism help to induce the introduction of new products and the tendency to incorporate ingredients and ways of cooking from different ethnic groups and food cultures (Gracia and Albisu (2001).

It would seem that the representative consumer does not exist any more. Consumers may behave in different ways depending on circumstances. Their choices in a normal shopping behavior might be significantly different from the choices on weekends or on special occasions (Gracia and Albisu (2001). O'Roarty and Tyrrell (2002) pointed out to the existence of 'sacrificial behaviour', namely a particular type of consumer behaviour according to which consumers tend to save in one area in order to spend in another one.

However, by and large, the main trends are not new and are not at all an exclusive European phenomenon. Indeed, they are quite typical patterns in advanced countries. The evolution in Europe is quite similar to the US patterns described, for example, by Senauer (2001). Indeed, these trends are consistent with and support the hypothesis of Connor (1994) according to which the trends observed in Western Europe parallel those in North America with some tendency for Northern America trends to begin earlier.

2.1 Consumers concerns, food scares and food safety

While the existence of similar trends is apparent in both the US and the EU, it should be noted that European food consumption patterns reveal some specific features.

In addition to awareness of the healthy characteristics of the diet, European consumer food choices have been strongly affected by food frauds and scandals occurred in the last few years. BSE, E.coli contamination, and pesticide poisonings have all had relevant consequences. They have increased consumers' concerns about food safety and have reinforced consumers appreciation about supply chain control.

The negative impact of recent food scares on public confidence in the safety of food products is well documented by Eurobarometer surveys. Several works show that not only European consumers have lost their confidence of food production, but they also demand more and more complex information. According to the latest Eurobarometer opinion poll a majority of Europeans want to see a change in the Common Agricultural Policy (CAP). The priority of the CAP should be to ensure that agricultural

products are healthy and safe, promote the respect of the environment, protect medium or small sized farms and help farmers to adapt their production to consumer expectations (Eurobarometer, June 25, 2002). In fact, those surveyed (16041 people in the 15 Member States) were strongly in favour of the following farm policy objectives listed in the survey:

To ensure that agricultural products are healthy and safe	90%
To promote the respect of the environment	88%
To protect medium or small sized farms	81%
To help farmers to adapt their production to consumer expectation	80%
To favour and improve life in the countryside	77%
To ensure stable and adequate incomes for farmers	77%

As noted by Franz Fischler, EU Commissioner for Agriculture, European citizens are ready to support farmers under the conditions that they get environment, food safety and quality or animal welfare in exchange (Agra Europe, June 25, 2002).

There is also empirical evidence supporting the importance of typical and regional products. About 30% of European consumers tend to buy Designation of Origin products even though the proportion varies among countries. In France and Spain, 85 and 79% of consumers, respectively, buy such products, in contrast with Sweden with only 8%. On average, 39% of European consumers consider that typical products are also quality products. In France and Italy, the proportion of consumers who think that typical products are associated with quality is greater than 50%, exactly 58% in France and 62% in Italy (Gracia and Albisu, 2001).

2.2 *Genetically modified food products*

There is no doubt that the issue where a specific European view is particularly marked regards the consumer's attitude towards genetically modified organisms (GMOs). There is a strong rejection of GMOs at all levels of society in Europe. The Eurobarometer 55.2 (December 2001) confirmed that European consumers want to be able to choose and demand for information: 94.6 % of Europeans want to have the right to choose when it comes to genetically modified foods. Secondly, people want information: 85.9 % of those asked wanted to know more about this type of food before eating it. Although this attitude is subject to certain variations, it is nevertheless very widespread in Europe. There are not strong variations both spatially and in relation to knowledge. Those with a high level of knowledge are less likely to subscribe to negative claims about GMOs but the difference is rather small.

Further evidence about consumers' attitudes about GMOs is indirectly provided by retailers decisions. In this sense, it is interesting to note that opposition to GM foods from the UK's supermarkets is as strong as ever. According to a recent survey by gmfoodnews.com this anti-GM stance has not waned since 1999 (Agra Europe, February 28, 2002). On the contrary, the British public resistance to GM food is still widespread despite claim by the industry that opposition is fading. It is worth noting that a recent poll demonstrates that the British public strongly supports the EU initiative on labelling. A total of 76 per cent declared the labelling of all food with GM ingredients should be made compulsory (Agra Europe, May 23, 2002).

The persistence of an extremely critical attitude towards GMOs in Europe means that the different attitude towards GMOs between US and UE consumers emphasized by Senauer (2000) remains a robust stylized fact. Sharply different attitudes toward biotechnology and GM foods in Europe and the US persist.

2.3 Organic foods

The consumption of organic foods is growing at a fast rate. Europe is the largest market for organic food in the world. Retail sales of organic food and beverages in 2000 amounted to US\$9.6 billion, compared with US\$8 billion in the US and US\$2.5 billion in Japan (Euromonitor 2000). However, it is noteworthy that the European Union average area devoted to organic production is still only 2%.

There are differences among European countries. The highest levels of consumption are in Northern Europe, while the lowest levels are in the South. Reasons for buying organic food vary across countries and among different types of consumers. Some consumers buy organic food because they perceive these products as environmentally friendly, more consistent with sustainable farming and/or less harmful to animals. Other consumers tend to buy organic food because they perceive it to be healthier and/or safer (AgraEurope, August 24, 2001). Recent consumer surveys suggest that concern about food safety is now the most important reason for buying organic. Increased consumer awareness and concerns arising from food scares as well as anxiety over genetic manipulation of crops and animal food sources have all contributed to a marked increase in the demand for organic foods. In this regard, Burton et al. (2001), using a choice modelling approach, have found that in the UK the preference structure that underlies organic also appear to inform GM food so that attitudes towards organic food may be considered as a useful indicator of attitudes towards GM food.

2.4 Towards an European consumer?

While these trends can be observed in all European countries, their intensity differs from country to country. Food habits, cultural values and attitudes, remain different across Europe. Indeed, this is not surprise. Tastes and preferences for food products are shaped in a long process of habit formation and these habits continue over time. In more technical terms, there is path-dependence or consumer's inertia at work in determining food preferences (Galizzi and Venturini, 1997). For example, many international differences in dietary patterns are also the consequence of physical availability and local production in the past (Gracia and Albisu, 2001). Although the situation is changing, the past does matter. In this sense, Europe is not a homogeneous block. National boundaries supplemented by cultural and language boundaries continue to exert an influence (Gracia and Albisu, 2001).

However, there is no doubt that several determinants of food consumption change along similar paths all over Europe. Indeed, there is evidence of more homogeneous food consumption patterns in Europe. Gil et al. (1995) found that over the last two decades dietary structures in EU countries have become increasingly similar. Gracia and Albisu (2001) show that, despite differences in income and in relative prices, the composition of diets reveal considerable similarities, and differences in consumption patterns among countries are diminishing over time.

This convergence is the result of several forces. First, it depends on the largely parallel trends in the determinants of food demand in European countries such as income, relative prices (as markets become more integrated), demographic changes as well as the concerns about health and nutritional issue. Second, the increased integration in European food manufacturing, with the adoption of common marketing strategies as well as the internationalization of the European retail industry also play a significant role. It is also likely that convergence in tastes and lifestyles will speed up as a consequence of a more intense process of European integration and, as we shall see in the next section, of the expected increase in cross-border activity of European retailers. Therefore, even though cross-country differences remain significant, it is possible to point to some kind of convergence towards a common European consumer.

3. Structural changes and strategies in the retail industry

We now turn to examine the main changes in retail industry. Structural changes in retailing and retailers' strategies play, and will increasingly play in the future, a crucial role in shaping food supply chains and in determining the evolution of food systems. In particular, we will argue that retailing will exercise a relevant role in the process towards an EU food system.

3.1 Increasing retail concentration

Grocery and food retailing in Europe is becoming increasingly concentrated. A relevant consolidation has taken place in the last decade through both organic expansion and a number of high-profile M&A. The results of a McKinsey analysis of the 400 largest acquisitions in the sector show that the volume of corporate takeovers more than quadrupled—rising from \$2.9 billion to \$12.4 billion—between 1994 and 1998. Large retailers are still growing faster than the total market.

Retailers face several incentives to grow. Size brings competitive advantages in negotiations with suppliers. Increasingly, retailers adopt strategies which imply huge fixed costs. This is the case, for example of private label programmes, advertising expenditures and customer relationship management, IT and logistics. In addition, size tends also to attract investment funds. There is also evidence that defensive and imitative mergers have a part. Defensive mergers/acquisitions may be triggered by a number of factors, such as the desire to achieve economies of scale and compete on a more equal footing with Wal-Mart on the global stage (Competition Commission, 2000).

The “Wal-Mart factor” increases such pressures. Wal-Mart's purchase of Asda prompted the Carrefour-Promodes merger. The merger of Carrefour and Promodès was mainly intended to establish French and Southern European strongholds that would make it more difficult for competitors to enter those markets and to strengthen the merged entity's position in Asia and South America. (Gurdjian et al., 2000). At the same time, each merger places the remaining competitors under even greater pressure. In fact, there is a fear factor at work. That is the fear of missing out on prime store locations and acquisition opportunities.

However, trends in retail concentration are not uniform throughout Europe. The degree to which the concentration process has progressed still varies from country to country and food retailing retain distinct national characteristics. In large part, this is due to the fact that the industry is at different stages of development in each country but the variations also depend on cultural and national regulatory differences. There is an apparent north-south divide in Europe. Northern Europe has larger retail enterprises, a high proportion of multiple chains, a lower density of enterprises, and higher concentration levels. Southern Europe has high densities of enterprises, a relevant number of small independent retailers and, consequently, lower levels of concentration (Dobson and Waterson (1999).

3.2 Cross-border mergers and acquisitions

European retailers are pursuing important international expansion programmes. European cross-border expansion, mostly by acquisition, accelerated in the last years. There are several reasons that prompt European retailers to adopt strategies of international expansion. First, a role is played by a reduced growth of food spending due to lower inflation (or deflation) and slower population growth as well as the impact of the growth of eating out. Second, given the already high levels of concentration, it becomes increasingly difficult to achieve further significant growth for retailers who have established dominant market positions in their home market. Third, in many European countries planning restrictions have become more stringent over the last decades. Reduced opportunities for growth in the domestic market force retailers to seek out new growth opportunities abroad.

Last but not least, global expansion creates scale and enables retailers to source larger volumes and demand discounts warranted by global buying power. There is a virtuous cycle of globalisation. The benefits of transferring best practice and increased trading levels are realised in greater cash flow and enhanced profitability. This in turn leads to further improvements in market value and the ability to make acquisitions. This explains why the retail industry, which can still be considered as a relative 'laggard' in terms of degree of internationalization in comparison to several other industries, has seen the implementation of important international expansion strategies in the last years. Key enablers of such strategies are the new information technologies.

Despite the recent changes, it should be noted that the process of consolidation of the European retailing is not yet very advanced. It is still at an early stage as clearly emerges from a comparison with the US retail sector. While the top five grocery retailers in the United States have a 35 percent share in 2000, the CR5 in Europe is only 26 percent (Gurdjian et al. 2000). However, European patterns are quite similar to the US ones. Until recently, grocery retailers in Canada and the United States dominated a region or two at most. Today, the strongest have extended their hegemony to multiple markets, and these super-regional market leaders are earning higher returns than their smaller competitors. At the beginning of the 1990s, European grocery retailers grew mostly at the national level: from 1991 to 1994, takeovers in Europe's grocery-retailing sector worked best on the national level (Gurdjian et al., 2000).

Retail consolidation on a pan-European basis is expected to continue in the coming years. Analysts suggest that there remains huge growth potential even for the largest retailers and great scope for crossborder M&A. Table 1 presents some scenarios and their probabilities recently hypothesized by the Institute of Grocery Distribution (IGD).

Table 1. Expected scenarios of M&A and their probability.

Scenario	Retailers involved in M&A	Probability
1	Carrefour-Ahold	2/10
2	Wall-Mart-Auchan	4/10
3	Auchan-Casino	6/10
4	Tesco-Target	4/10

Source: IGD (2002).

Clearly, the scope for consolidation remains huge if these scenarios are correct. Analysts are agreed that we are just at the beginning of crossborder retailing in Europe. Large scale mergers and acquisitions could rapidly change today's operating environment.

The reason is that the determinants of such patterns will continue to operate. Many countries have toughened planning regulations to stop the decline of the high street and the move of retail chains to out of town shopping centres or to protect small independent retailers from large-scale retailers. In several countries, particularly in France, Britain and Germany, the development of very large stores has in effect been halted. Slow growth in domestic market, high level of concentration, combined with increasingly stringent planning legislation will continue to propel foreign expansion. Indeed a new wave of M&A is expected as soon as the macroeconomic climate should improve. And as the number of cross-border mergers and alliances increases, the likely effect will be a further consolidation of retailing at European level.

Table 2 presents the expected market shares of the largest ten grocery retailers, namely the

Table 2. Sales and Concentration in European Grocery Market (EUR billions)

	2000	2005	2010
Largest retailer	66.9	93.7	131.1
2nd Largest	48.9	58.7	78.0
3 rd Largest	31.9	48.5	72.7
Next 7 Largest	189.4	260.9	387.8
CR10	37.4	45.9	60.5

Source: IGD Research & estimates

concentration ratio CR10 on a pan-European basis. As it can be seen, the top ten retailers are expected to increase their share from 37.4% in 2000 to 45.9% in 2005 and to 60.5% in 2010.

It should be noted that according to IGD, a similar process of further consolidation is expected in the U.S. market where the CR10 is expected to increase from 37.4% in 2000 to 68.2 % in 2010. According to such figures, retail concentration will remain higher in the US. One reason may be the fact that, while the factors at work are the same, geographical expansion is easier in a more homogeneous environment and there is no doubt that the U.S grocery and food market is still much more homogeneous than the European one. As we have noted in Section 1, consumer tastes are less homogeneous in Europe than they are in the US, and this makes it harder for European grocery retailers to realize advantages of scale and scope by operating across different European markets.

3.3 European retailers as leading global players

European grocery retailers are playing a relevant role in the process of globalisation. As can be seen from Table 3, ten out of the top 15 retailers are US firms. However, in retailing, global competition seems much more balanced than in other industries. The superiority of the US retailers in terms of absolute size is essentially explained by the huge size of their domestic operation. US retailers are larger in absolute size than their European counterparts since they dominate regions of the U.S. comparable in size to many European countries (Cotterill, 2000).

Against this is the fact that only Wal-Mart and few others US retailers have a presence outside of the US. In terms of globalization, EU retailers have begun to spread into various markets. Indeed, one of the most interesting patterns is the emergence of European-based retailers rather than American retailers as the major global competitors in the food retailing sector. The data in the two rightmost columns present the degree of globalization as measured by the Global Retail Index (GRI), an index calculated annually by the Institute of Grocery Distribution (IGD) using a combination of hard factors (turnover, number of countries of operation, percentage of foreign sales, presence in key regions, home market dominance) and soft factors (clarity of global strategy, global culture, level of global learning and sharing).

Such index reveals that Carrefour, Ahold and Wal-Mart are the most global retailers. The data presented in Table 3 also show that retailers pursue multi-format strategies as can be seen from the increase in the number of formats. The increasing internationalization is also indicated by the number of countries where retailers operate. In few years, from 1997 to 2000, the number of countries has increased drastically. In brief, the last decade has witnessed an important process of globalization and organizational change of the retail industry.

Table 3. Ranking of top retailers, international expansion and globalization

	Retailer	Country of origin	Formats		Sales (millions of US dollars)	Countries of operation		GRI index	
			2000	1997		2000	1997	2001	2000
1	Wal-Mart	United States	2	2	193,295	10	8	72	
2	Carrefour	France	5	2	67,369	24	14	83	83
3	Kroger	United States	5	2	49,000	1	1	17	13
4	Home Depot	United States	2	2	45,738	5	2		
5	Metro	Germany	7	5	42,636	22	18	60	60
6	Ahold	Netherlands	7	3	48,592	25	13	80	78
7	Kmart	United States	1	1	37,028	4	6		
8	Albertson's	United States	2	1	36,762	1	1	13	13
9	Sears	United States	3	2	40,937	3	1		
10	Target	United States	2	2	36,903	1	1		
11	Safeway	United States	1	1	31,977	2	3	26	15
12	JCPenney	United States	3	3	31,846	4			
13	Tesco	UK	3	1	31,757	10	6	59	54
14	Costco	United States	1	1	32,164	7	6	47	41
15	Rewe	Germany	8	1	34,694	11	9	33	33
16	Intermarchè	France	7	3	30,698	8	9	39	33
17	Auchan	France	6	3	29,134	14	10	50	48
18	Edeka	Germany	5	2	28,782	7	5	26	26
19	Ito-Yokado	Japan	7	7	28,307	15	2	55	55
20	Sainsbury	UK	3	4	25,486	3	3	27	29
21	Tengelmann	Germany	6	3	25,154	16	10	48	43
22	Aeon	Japan	8		24,978	7		25	13
23	Leclerc	France	2	4	22,541	5	5	20	18
24	Daiei	Japan	6	3	26,579	3	3	9	9
25	Federated D.	United States	2	3	18,407	3	1		
26	Kingfisher	UK	4		18,360	18			
27	Aldi	Germany	1	2	17,782	11	8	49	47
28	Casino	France	6	4	17,571	11	4	51	49
29	Delhaize	Belgium	5	4	16,739	12	7	54	54
30	Publix	United States	1		14,575	1		7	7
31	Lidl	Germany	5	2	11,300	13	10	33	31

Sources: Stores (2002); IGD (2002).

European retailers are among the most dynamic players in retail globalisation. While they may face more difficulties in building a strong pan-European presence in comparison to the problems faced by US retailers in expanding at the national level, the European home market with its complexities and cultural differences may favour retailers' global market position since a pan-European strategy of internationalization needs and allows the development of relevant marketing skills and capabilities.

3.4 International expansion and convergence in European retailing

Internationalisation plays a crucial role in determining greater similarities in retail formats, retail industry's structures, strategies and management techniques. The role of large retailers is crucial in determining a convergence process in European retailing. In Southern countries, as well as in Eastern ones, the geographical expansion of major retailers is driving the concentration process. In Central and Eastern Europe modern retail structures are still few. Yet, these countries too show clear trends towards

a higher degree of concentration. The Czech Republic, Hungary and Poland are all experiencing increasing numbers of western retail groups. The entry of a large number of international retailers in Southern, Central and Eastern Europe will result in further consolidation in these markets. As the pressures to international expansion are likely to increase, these forces are expected to play even a stronger role in the future and strengthen the trends towards the convergence of food retail environment in Europe.

4. Vertical competition and coordination: towards new vertical relationships

We now briefly consider the consequences of observed changes in European retailing for the other stages of food system. Given their size, resources and capabilities, retailers in Europe are increasingly able to play several strategic functions which exert a relevant impact on the food system. We focus on three topics: the launches of private label programmes, the vertical coordination of supply chains and the changing vertical relationships between food manufacturers and retailers.

4.1 From private labels towards retailers' store brands

One of the most important feature of European retailing is the development and the role played by private-label products. In the last decades, European retailers have successfully launched several private label programmes. In addition, private labels positioning is drastically changed over time. Initially, the market position of these labels, as me-too versions of branded foods, was a low price/lower quality alternative to manufacturer brands. Today, as these brands carry the retailer's name and are unique to the store, they have been repositioned, their quality improved and are increasingly associated with new product launches.

Store brands are expanding into nearly every food category and their quality standards continue to increase. More recently, retailers have also begun to segment their private-label products into different categories. Most retailers carry a range of private labels, including price entry budget lines, mid range private labels and premium brands, which meet and can also exceed so-called A-brands, namely the leading national brands, in terms of quality and degree of innovativeness.

Major retailers recognize the benefits of using private *label* not only to improve their profit margin, but also, more strategically, to differentiate themselves and build store loyalty. In this regard, the growth of premium private label is a crucial marketing tool. As private labels move closer towards becoming true and stronger retailer brands they too innovate and run brand-building promotions. As a result, they continue to grow in volume, while the price discount between manufacturers brands and private labels is decreasing.

Particularly in fresh foods, private label products have taken the lead in addressing the major consumer trends and needs. For example, ready meals, food safety and organic food are now dominated by private label products. In these sectors, particularly interesting for retailers given the evolution in consumers' demand, innovation increasingly comes from private labels, rather than from manufacturers' brands (Jones et al. 2002). The impact of these strategies are impressive. In some categories branded goods have almost entirely disappeared and as we will see below manufacturers face a dramatic increase in pressure.

Table 4 show that there are relevant differences in the market shares achieved by PLs in different countries. In the UK, private labels have achieved a market share of 42% and are still growing. The UK is the most advanced market in terms of the evolutive patterns of PLs, namely their contribute to retailers differentiation (Burt, 2000). Their value share is almost as high as the volume share. In Britain,

manufacturer brands can command a price premium of less than five per cent- unlike in other countries, where private label are ten to 30 per cent cheaper than branded goods (Jones, McLaughlin and van Ossel, 2002).

However, the same trends are present in all the European countries. Indeed, from Table 4 it is possible to note the existence of a process of convergence regarding the market share of PLs. If we take the UK as a benchmark, it is possible to see that the distances between the other European countries and the UK tend to reduce. This convergence is particularly interesting since the market shares of PLs can be used as a proxy of the evolutive stage of retailers' brands and, consequently, as an indicator of the intensity of vertical competition.

Table 4. Private-label market shares in European packaged grocery retailing (% of market)

	1980	1990	1997	2002*
France	7	15	23	27
Germany	5	19	21	23
Italy	5	6	11	15
Spain	2	6	10	14
UK	23	31	40	42

Sources: A.C. Nielsen, IGD, International Business Analysis (2002).

* forecasts

4.2 Vertical coordination and supply chain management

Vertical coordination and forms of quasi-vertical integration between the different stages of food system are increasingly present in European supply chains. Food processing firms and retailers have increased their vertical control on agricultural inputs through contracts with farm producers.

Such a pattern is quite general even though its intensity differ among the European countries. In the Netherlands, for example, almost half of arable crops are produced under contracts with retailers. In Southern countries the situation is quite different and the intensity of coordination is still much lower. All over Europe, in addition, one can note a significant process of agriculture industrialization with a decrease in the number of farmers and an increase in farm size (Hennis, 2001). Supply chain management is increasingly, enhanced by new information technologies.

Here, again, the role of retailers is quite relevant. There is a crucial interaction between incentives faced by retailers and the evolution of final demand. The increasing consumers' concerns about food quality and safety mean that retailers face increasing incentives to understand and control every stage in the supply chain in order to safeguard their integrity. As a result, European retailers play a leading role in, and exert a growing influence on food supply chains. Particularly, after the mid-1990, the major European retail chains have responded to consumers' concerns not only by advertising food safety and health aspects but also by improving food chain controls (AgraEurope, August 24, 2001).

To cut costs and improve their control on the food chains, retailers are setting up their own complete systems of regulations and monitoring, elaborate systems of traceability and developing new supply chain management techniques. The implementation of HACCP has become increasingly widespread.

It is important to note that even though these developments have been the result of the interaction between mandatory government regulation and market-based mechanisms, the adoption of HACCP has been strongly induced by retailers. Particularly for their private-label products, retailers' purchase from food manufacturers are subject to strict specifications which typically require that HACCP be applied and verified through third-party audit (Henson and Holt, 2000).

4.3 New information technologies, logistics and e-commerce.

One of the most relevant consequences of the role played by retailers regards the improvement in the efficiency of supply chains. New IT and information systems provide the information basis for improved management of direct contacts between retailers and their suppliers.

At present, there is a strong emphasis on Collaborative Planning, Forecasting and Replenishment (CPFR). The purpose is to focus on improving the supplier/ manufacturer/retailer trading relationship by allowing co-management of planning processes and efficient sharing of information among suppliers, manufacturers and retailers. In the next few years, CPFR is expected to offer relevant benefits.

So far, most food retailers have had little success using the Internet as a viable option to reach the consumer. E-commerce is expected to remain a challenging medium in the future with predictions estimating it will account for around 3-5% of all retail sales in Europe by 2005 (AgraEurope, Thursday August 16 2001). In general, each of the different parts of the supply chain is at a different stage of e-commerce adoption. Over the next 2-5 years, retailers requirements will become even more transparent. E-commerce will play a key role in the evolution of the European food supply chains.

Structural changes in food retailing have had a positive impact on efficiency. The increasing sophistication of logistics operations and the widespread use of supply chain management helped to design mechanisms to control complex vertical linkages and chain organizations. Larger store formats and improved logistics have raised productivity. At the same time, retailers allocate significant resources to analysing costs throughout the supply chain, identifying savings and streamlining the supply chains, consolidating their supplying base and managing relationships from fewer points of contact at national, regional and increasingly at global level.

4.4 Vertical relationships between manufacturers and retailers

Changes in retail industry structure coupled with retailers' strategies have a strong impact on the nature of vertical relationships between manufacturers and retailers and on the competitive environment of the European food processing industries. One of the main impact regards food manufacturing concentration. The European food manufacturing has been characterized by an intense process of consolidation over the last years. This trend is present in all European countries, even though important differences in terms of concentration levels across countries persist (Gilpin and Traill, 1999; AgraEurope, January 17 2002). The level of concentration is very high in the UK food industry but the industry remains fairly fragmented in Germany given the high number of medium-sized firms. Concentration is still lower in Southern countries.

Despite these differences, the process of consolidation is general. According to a recent survey by KPMG Corporate Finance on European Food Processors, innovation and consolidation are crucial to get successful performances in Europe's food processing industry. The survey also reveals that more than two thirds of European food manufacturers view acquisitions as key to survival. It is also expected that further consolidation will occur in the next years (Agra Europe, December 21, 2000).

A number of factors explain the pressure to consolidate faced by food manufacturers. Consumers' demand for convenience and quality as well as the need to ensure food safety, nutritional quality and functional foods increase the need of research. Traill and Meulenberg (2002) observed that food industries, traditionally low-tech, are becoming more R&D intensive. The pace of change is likely to increase with new technological opportunities allowed by biotechnologies. Firms must respond not

only by introducing more new products, but by better targeting them. Hence the need both to upgrade marketing competencies and to increase R&D expenditures and introductory advertising.

It should also be noted that food manufacturers in Europe have been strongly affected by the creation of the Single Market. An increasing number of EU-based food manufacturers take for granted that Europe has become their home market. This means that food manufacturers need to understand the market and industry dynamics at this level and, at the same time, they have to be aware of the existence of regional differences in consumption that persist despite the increasing homogeneity of needs and demands across European country borders. But this fine tuning to local tastes and preferences implies higher fixed expenditures in terms of marketing costs.

While these factors contribute to explain increasing concentration in European food manufacturing, it is the change in vertical relationships between retailers and manufacturers which plays the most relevant role in explaining the incentive to consolidate faced by food manufacturers. The most part of the pressure to innovation as well as to horizontal and vertical differentiation is endogenous to the role played by retailers.

As a consequence of continuing consolidation in the retail industry, gradually retailers are matching the volume sales of their branded suppliers and the balance of power is clearly shifting toward them. In 1997, the top ten grocery retailers accounted for 42 percent of total sales in Europe while the top ten food manufacturers accounted for only 14 percent (Freedman, 2001). Therefore, there is no surprise that, as indicated by an increasingly anecdotal evidence, even large manufacturers are no longer able to resist demands from retailers. Food manufacturers are and will experience an increasing pressure which reduce their margins and make it even more difficult to finance R&D and marketing expenditures. Nevertheless, in this context, a portfolio of strong brands is crucial in order to maintain an appropriate bargaining power with retailers. It is absolutely crucial for manufacturers to strengthen their brands and to aim for market leadership. The alternative for many manufacturers is to move away from differentiation and consumer marketing and supply private label products to retailers in a low cost, reliable and timely manner.

Given retailers' pressure, products which are not in a number one or two position increasingly are confronted with major price cuts and finally face the risk of being delisted and replaced by large retailers' private labels. In fact, delisting these brands has only a minor impact on the store's sales. There is evidence that no fewer than 75 per cent of all brands are under pressure. According to recent estimates, only the 25 percent of European brands have sufficient critical mass to sustain appropriate marketing efforts (Jones, McLaughlin and van Ossel, 2002). As a result, most brands fail to achieve an adequate brand loyalty.

This explains why the key driver of M&A in the food industry over the past few years has been the decision by the large manufacturers to concentrate on their core activities. French group, Danone, for example, has narrowed its core products. Another large group, Unilever, has narrowed its portfolio to concentrate on oil and fat products, ice-cream and tea (AgraEurope January 17 2002).

This pattern is quite general and can be observed in the US as well. Recently, Rogers (2001) pointed out that current merger wave in the US is more horizontal in nature: food manufacturers seek merger partners among current rivals and seek to consolidate their positions in markets and product categories where they currently hold a strong position.

However, given the market share and the positioning of private labels in Europe, these pressures may be stronger in Europe. In an environment of more and more intense vertical competition it is essential to have in portfolio strong brands. But this means for manufacturers higher sunk costs in R&D and advertising. Thus, retail concentration creates an incentive for food manufacturers to consolidate. Manufacturers' margins are under increasing pressure by retailers.

One of the keys determinant to this consolidation, is that food manufacturers are focused on building relevant scale to get a strong position in a product category. Small companies will continue to exist

only if they are able to find niche segments of demand and be innovative in terms of flavors and packaging. Medium sized firms are particularly vulnerable in this environment. They are in the squeeze between the large companies and the small ones capable of innovation (Harrison, 2000).

This mechanism predicts (and is supported by) the increasing concentration in advertising expenditure. According to Rogers (2001), the top 100 advertisers in the US accounted for 96.4% of media advertising and the top 8 alone accounted for over 50% in 1992. The concentration of advertising expenditures has risen sharply from 1967 to 1992, with the four largest advertisers increasing their share from 19.4% in 1967 to 36.9% in 1992.

To go further than these observation is beyond the scope of the present paper. Nonetheless, even these cursory observations suggest that structural changes in food manufacturing are strongly related to changes in vertical relationships associated to retail concentration.

5. Retail concentration and social welfare

Retail consolidation does not only bring efficiency benefits but also concerns for retail prices and retailers' market power. Competition authorities in Europe have been largely unaffected by higher retailer concentration. Until recently, it was conventional wisdom in Europe the view according to which economies of scale and scope related to retailers' size would deliver benefits to consumers in terms of lower costs and prices. This attitude might change. Recently, the view that retail concentration is unequivocally beneficial to social welfare has been challenged. Some economists have begun to point out the costs of retail concentration. For example, Dobson and Waterson (1999), discussing in detail these aspects, make the following points:

- 1 Increasingly, it is retailers that dictate terms and conditions of trade as manufacturers compete for access to selling space in the more concentrated retail markets. The largest retailers are able to negotiate favourable terms and exert buying power to their advantage with their suppliers. The largest retailers are able to negotiate favourable terms and exert buying power to their advantage with their suppliers.
- 2 As a consequence of retail branding, consumers view retailers as imperfect substitutes. Differentiation among retailers dampens competition since retail branding increases consumer loyalty and enhance retailers' market power.
- 3 Retailer-supplier vertical relationships are highly asymmetric. Many arm's-length buyer--supplier relationships have given way to the use by powerful retailers of closely controlled 'preferred' suppliers, which can in turn subcontract production, creating a supplier hierarchy. For the retailer, risk is shifted on to the preferred suppliers, which are responsible for delivery and quality, but receive very narrow margins.
- 4 Effective entry into retailing is not as easy as traditionally claimed. Licensing and planning restrictions impede new entry. Even where entry is possible, incumbents have advantages from the best location, experience and reputation as well as by the existence of sunk costs in entering markets that need investments in highly specific assets. (Dobson and Waterson, 1999).

There is anecdotal and empirical evidence supporting several of the above claims. To be sure, large retailers not only negotiate volume discounts but ask and obtain other benefits from suppliers such as 'slotting allowances' and funds to pay for in-store displays. Slotting allowances and discounts schemes sometimes go beyond possible cost savings of the manufacturers. There is evidence that even the largest manufacturers have to pay slot allowances for gaining access to supermarket shelves.

It is also apparent that competitive pressure on suppliers is further enhanced by retailers' private-label brands. In many product categories, even the position of the number one and two suppliers, has in many instances been under pressure. While market access for other suppliers is becoming increasingly difficult. There also is anecdotal evidence that brands are no longer being used to demonstrate that private label is the better buy; they are delisted to avoid price benchmarking.

However, there is less evidence about selling power of retailers. Recent work in this area suggests that despite high levels of concentration, retail industry remain competitive. The UK Competition Commission investigation into grocery retailing, for example, found that while some practices carried out by major retailers are against the public interest "the industry is currently broadly competitive [...and], overall, excessive prices are not being charged, nor excessive profits earned"(Competition Commission, 2000).

Indeed, the Competition Commission found that retailers may "adversely affect the competitiveness of some of their suppliers with the result that the suppliers are likely to invest less and spend less on new product development and innovation, leading to lower quality and less consumer choice. This is likely to result in fewer new entrants to the supplier market than otherwise. Certain of the practices give the major buyers substantial advantages over other smaller retailers, whose competitiveness is likely to suffer as a result, again leading to a reduction in consumer choice" (Competition Commission, 2000).

In addition, the Commission found that in some areas of the UK, the limited choice for some consumers as well as the negative impact of some retailers practices, exacerbated by the shortage of land for new development and expansion, are such that any further local concentration could weaken competition and might result in higher levels of selling power. The existence of monopolies in under-provided areas in the UK has been recently confirmed by Poole et al. (2002). In any way, the main conclusion of the British Competition Commission investigation is that in the UK grocery retailing seems to be competitive and the benefit of retail concentration to consumers would outweigh the costs (Competition Commission, 2000).

Dragun and Knight (2001) pointed out that the entry of 'new' foreign formats (hard discounters, hypermarkets) have increased competition in The Netherlands, Sweden and Belgium, despite the already high level of concentration. In France, Germany and the UK, despite the rapid domestic consolidation, an intense battle for market shares increases price pressure and the intensity of price competition to avoid the erosion of market share. As a result, even the leading European retailers experience an intense price competition (Dragun and Knight, 2001).

This evidence supports the hypothesis of Konrad (1999) according to which, whether or not higher concentration in European retailing is an alarming signal, it depends on the game played by retailers. The above empirical findings, obviously not exhaustive, seem to indicate that retailers are more involved in Bertrand-type competition rather than Cournot competition.

The persistence of an intense price competition at the retail stage of the food system is clearly crucial for social welfare. This evidence suggests that so far price competition has been intense enough to be consistent with social welfare. Consolidation enables retailers to extract discounts from manufacturers, but in some way lower intermediate prices due to retailers' buying power are passed on to the consumers as lower prices.

This also means that Dobson and Waterson may have neglected some factors that have helped maintaining retail industry competitive. The first of these factors is the phenomenon of cross-border entry determined by geographical expansion strategies of retailers. The entry of Wal-Mart, in particular, has resulted in a much tougher competition in European retailing. Furthermore, the structure within the retail industry is characterized by the presence of different retail types and formats. At least so far, inter-type competition seems vigorous enough to explain a competitive outcome.

It should be noted that if this is correct, the old Galbraith's (1952) idea of countervailing power remain valid. Dobson and Waterson (1997b), for example, pointed out that countervailing power is not a

reliable self-regulatory mechanism to protect consumers when retailing is concentrated and the services of competing retailers are not very close substitutes for each other. But the question, obviously, is empirical and so far the empirical evidence supports the notion of countervailing power.

This does not mean that further concentration at the retail level could not affect negatively public interest. Indeed, this might just happen since, in addition to further concentration, retailers' increasing attempts to differentiate themselves from each other through premium and stronger private labels may make the services of competing retailers less and less perfect substitutes. Bertrand competition can, in turn, result in higher concentration. And as market concentration increases, it is more likely a shift from Bertrand to Cournot competition. These arguments suggest that retail concentration may also lead to significant costs in terms of social welfare, in addition to benefits in terms of static and dynamic efficiencies associated to retail concentration.

Further exploration of this issue would, unfortunately, take us too far afield from the focus of this paper. However, it is important to note that much of the public policy directed towards the retail sector tends to emanate not only from a traditional view of retailing but also by a neglecting of the mechanisms at work in emerging vertical relationships between manufacturers and retailers. Anti-trust implications of these mechanisms have not yet received an adequate attention at both theoretical and empirical level.

6. Emerging topics for public policies and future research

In this section, I will examine the main implications of the findings individuated in previous sections for public policies and future research. It seems possible to indicate the following four relevant areas.

6.1 New equilibria in the political economy of the CAP?

Public opinion in Europe seems increasingly oriented to oppose current patterns of "intensive" and industrialized agriculture. Agricultural industrialization and efficiency in production provide benefits but not without external costs. Indeed, the problems of environmental externalities costs are considerable. The search for cheaper food and greater economic efficiency is no longer accepted as the sole standard against which policy choices should be measured (Blandford and Fulponi, 1999). As we have seen in Section 2, European citizens reveal a willingness to support farmers and the rural zones but under the condition that in exchange they could get results in terms of environment, food safety, quality and animal welfare.

This is an interesting change in consumers attitudes with far reaching implications. It suggests that a shift in priorities is needed, from quantitative priorities to stressing food safety, nourishment and environmental sustainability. Such a change in priorities will require complex adjustment in policy and food practices. For example, to implement measures which allow European agriculture to fulfil the objectives identified through the concept of multifunctionality, namely an European agriculture also capable of maintaining the countryside, conserving nature and making a key contribution to reinforcing rural development policies will require the solution of difficult analytical issues (Rabinowicz, 1999).

While the above discussion outlines some normative implications, the main difficulties, as usual, will be on the positive side. The hypothesis of a gradual shift of the CAP towards quality and food safety in food production and sustainable, environmental friendly agriculture poses difficult positive issues about balancing seemingly different policy objectives such as – health, environment, consumer aspirations, as well as complex interactions of interest groups within the food system.

The role of consumers will have to increase relatively to that of producers. Farmers' influence on policy-making has to decline. There is some evidence that this is happening. In spite of some differences between the Member States, a common pattern is emerging in European agriculture. This pattern consists of a growing number of alternative organizations, such as professional groups, organic farmers' organization, consumers associations and environmental groups active in the decision-making process (Bager, 1997; Hennis, 2001).

The political economy of the food system will become more complex and new equilibria might emerge. If that happens, a change will be possible with a more market-based CAP, less protectionist impact, budgetary burden and environmental implications (Tarditi, 2002). The political economy of agricultural and food policies and legislation is still rather neglected in the European literature. The above consideration suggest that it should receive greater attention.

6.2 More stringent rules and regulations for food safety

The evolution in food final demand and consumers' emphasis on health and food safety point to the need of major reform in monitoring and more stringent rules and regulations. The European Union faces the crucial need of restoring public confidence in its food supply, food science, food law and chain controls. In this context, the establishment of the European Food Safety Authority is a major priority. The EFA will have a key function in assessing risks. It is expected to become a point of reference for all stakeholders, policymakers and the public by virtue of its independence, the scientific quality of its opinions and its information to the public as well as the transparency of its procedures. However, unlike some national food authorities in Europe and the Food and Drugs Administration (FDA) in the United States it will operate as an advisory body to the EU institutions. The EFA will not be given powers to act on its own and independently of the European institutions. The establishment of an EFA is an important first step but by itself not at all a decisive means towards restoring consumer confidence.

To this end, much more is needed. Europe needs a framework for development of consistency and coherence in EU food policy. As food production has become more and more complex, consumers are not only increasingly facing *credence goods*, namely goods whose quality and safety cannot be known even after purchase and consumption, but they are also increasingly aware that this is the crucial issue. Consequently, consumers are strongly interested in clear and unambiguous information about food characteristics. This information is usually conveyed both on a mandatory and a voluntary basis. The decision to adopt food safety controls is, for example motivated by a number of public and private incentives as suggested by Henson and Holt (2001). Even if producers, manufacturers and retailers face private, market-based incentives to improve supply chains controls, public authorities and policies will have to play a crucial role. A better understanding of the effectiveness of these different approaches as well as of the interactions between private market-based incentives and mandatory requirements will be a crucial area of research.

6.3 Will it be possible to avoid a trade war in GMOs?

As we have seen in Section 2, concerns about potential risks of GMOs and the application of new biotechnology are a typical European attitude. Consumer resistance to GM foods in the EU is still strong and widespread. Sharply different attitudes between Europe and the US persist. To be sure, if the EU approach will continue to be more cautious, the transatlantic dispute on GMOs will continue. But the GM food debate is not a pure trade issue related as it is to central topics such as health and safety and it does not regard few products. Given the pervasive nature of biotechnologies and the persistence of different attitudes, the consequences of a conflict could be very negative. For some, it is extremely

likely that a conflict will explode (see, for example, Sheldon, 2002). Victor and Runge (2002) pointed out that to reduce the risks of international trade disputes a delicate dance is needed and the only way to sustain it is to keep dancing. In other words, the two parts should avoid to take decisions so radical to break the present delicate equilibrium. Hence, the need of an appropriate management of the issue. Economic research has a potentially very useful role to play here. Since several factors seem at work in causing these different attitudes, one interesting and important line of future research would be to investigate more deeply the determinants of these differences as well as their relative importance.

6.4 Competition policies and antitrust issues

Finally, I would stress competition policies and antitrust issues as an area of increasing relevance both for public decisions and academic research. Given that, as we have seen in Section 3, the factors at work in determining increasing concentration in retailing will continue to be at work, it is easy to predict that competition policy issues will (should) receive greater attention in the future.

Over the next years, we can expect governments across Europe as well as the Commission to watch and pay much more attention to social welfare implications of changes in the retail industry. Although considerable benefits come from retail consolidation both in terms of static and dynamic efficiencies, the increasing market concentration in food retailing and large retailers' behaviour may have negative social welfare consequences. Competition Authorities will have to pursue an antitrust policy that allows industry change to take place, including retail consolidation where necessary, but that resists anticompetitive practices and actions by dominant retailers. But this requires a better understanding of the welfare implications of retail concentration as well as of the mechanisms at work in vertical interactions between retailers and manufacturers. Much more research is needed on such topics too.

7. Concluding Remarks

In this paper, we have shown that the evolution in final demand and the trend towards pan-European food retailers favour the convergence of European food systems. Indeed, even if important differences persist and are unlikely to disappear quickly, the essential traits of an EU food system seems well established. Food safety issues constitute a growing concern in all EU countries. Increasingly, consumers demand a variety of healthier products, organic foods, natural, low-fat, functional food products while continue to be extremely critical towards GMOs.

The internationalization and concentration in retail industry are perhaps the most important single factors at work in determining the convergence of European food supply chains. Concentration is going on in the European retail sector fuelled by the development of a pan-European retail industry. Structural changes in the European retail industry as well as retailers non-price strategies increase retailers' role as well as their bargaining power. We have shown how important behavioral and structural changes depend on the nature of vertical relationships between retailers and their suppliers. As a result, food supply chains are increasingly affected and shaped by retailers' strategic decisions.

From a public policy perspective, one of the main implications of this work is that public policies will continue to exert a relevant role in the European food system. Over the next few years, we can expect governments across Europe, as well as Brussels, will continue to look at the food system. Indeed, they will even take a closer look at its problems and public policies might even play a greater role. On the other hand, nature and contents of public decisions will have to meet relevant changes in demand conditions and competitive environments. And these changes have far reaching implications for the

role of public institutions in the European food system and suggest particularly relevant path for future research in the economics of food system.

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