

# **The Collective-Quality Promotion in the Agribusiness Sector: An Overview**

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## **Abstract**

This paper reviews the economic effects of collective-quality promotion through a survey of the recent literature devoted to common labeling and professional groups. Benefits and costs of common labeling and professional groups for improving quality are detailed. Some empirical facts are presented, mainly focusing on some European examples, since many European countries have a long history of producer-owned marketing programs. This paper shows that in some cases the collective-quality promotion can be a successful strategy for firms/farmers.

**Keywords:** collective-quality promotion, labeling, marketing organization, quality signals.

## **Introduction**

Both economic growth and international trade have put many new products on the shelves, requiring further diligence in providing food quality and safety. As incomes rise, consumers are more prepared to pay for quality; thus the demand for information, including labeling and traceability, has gained momentum in Europe and in the United States. The need for a signal may be even more important when consumers cannot be certain of a product's characteristics, which is the case when agricultural products from a variety of processors are sold at the retail level with no brand designation. The commitments of countries in the World Trade Organization point in the direction of a reduction of state interventions to regulate the market. Decreasing governmental protection means that farmers/producers should improve the quality of their products and the way they promote it.

The aim of this paper is to analyze the way farmers organize to obtain and promote better quality. Collective-quality promotion here refers to common labeling and private regulation through a professional group. Questions of interest in the analysis include whether collective-quality promotion raises the value of the products; who joins common marketing programs; and whether these programs are efficient in signaling quality to consumers.

The economic effects of collective-quality promotion are reviewed through a survey of the recent literature devoted to common labeling and professional groups, including some very recent papers that bring to light important information for understanding the economic mechanisms involved. Some empirical facts are also presented, mainly focusing on some European examples, since many European countries have a long history of producer-owned marketing programs. This European experience may help those who are interested in developing new programs in the United States or elsewhere.

### **A diversity of organizations**

In agricultural markets, labeling, branding, and/or private regulation all serve to mitigate potential inefficiencies resulting from imperfect information about product characteristics

(Caswell and Mojduszka, 1996). If consumers are not fully informed about product characteristics, they may consume a product with an undesired characteristic or pay a price that does not reflect the quality associated with the product in question. Although a label, a brand, and/or a regulation are proposed as tools for mitigating market failures that have resulted from imperfect information (Akerlof, 1970), the instruments themselves may generate other distortions, including antitrust concerns or consumers' misunderstanding (Anania and Nisitico, 2005).

The agribusiness sector is characterized by the coexistence of multinational companies wielding oligopolistic/oligopsonistic power and farmers with very limited ability to influence prices and capture marketing gains. In the United States and Europe, the degree of concentration in agribusiness varies considerably among states and sectors. Indeed, the three-concentration firm ratio (CR3, that is, the combined market share of the three largest firms) ranges from more than 80% for mineral water, malt industry, baby food products (...) to less than 25% for the meat industry, cheese (...). The strategies of quality promotion differ a lot according to the concentration in different sectors.

**Figure 1. The number of competitors involved in one quality signal**

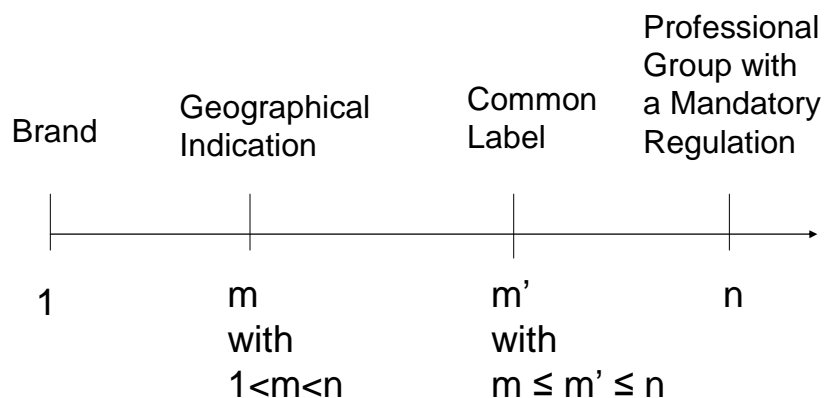


Figure 1 illustrates the different types of organization for signaling quality with the number of competitors or sellers involved in one quality signal, when  $n$  sellers are identified by consumers in a downstream market. While a private (manufacturer/retailer) brand belongs to a single firm, voluntary labels are used by several producers/firms.<sup>1</sup> Note that (i) one or several brands may adhere to a geographical indication or post a common label and/or (ii) several farmers may contract with a brand for the packaging and labeling of a product.

Regarding the labels, Figure 1 distinguishes between a geographical indication (with  $m$  sellers) and a common label (with, in general, a larger number of sellers,  $m' > m$ ) for insisting on the level of exclusion. A geographical indication excludes the sellers who do not produce in the restricted area, which can be a tool for controlling supply (implying some antitrust concerns). In other words, if we abstract from the price rivalry, a geographical indication is a club good for producers (Langinier and Babcock, 2005). Conversely, under a common label, all sellers complying with the label rules may join the label, since no producers can monopolize an environmental/ethical characteristic (Boizot-Szantai et al., 2005). If we abstract from rivalry, common labels are close to a public good for producers. This difference between geographical indications and common labels has been overlooked by previous studies.

Eventually, professional groups (such as private committees or “coordinators” under government control) regulate many aspects of the market, including quality calibration, quality controls, the definition of contracts between farmers and traders, and generic producer advertising (as the marketing-order system in the United States). In this sense, a professional group corresponds to a “private regulation,” since the committee decisions are mandatory for all sellers (as the  $n$  sellers in Figure 1) and the committee is financed by producers.

Clearly, in a very concentrated industry (with a CR3-4 larger than 70%), the quality promotion is mainly based on brand reputation and private strategies of advertising. For instance, *BusinessWeek* places brand values of US\$4.05 billion on the Danon brand and US\$4.43 billion

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<sup>1</sup> Numerous labels are adopted voluntarily, allowing a firm to choose either to label its product or to promote its own brand. The state provides property rights protection and quality-monitoring assistance. Public labels encompass both voluntary and mandatory certification labels. The choice between a voluntary and a mandatory label is a thorny task for the regulator and has major consequences in terms of market mechanisms and international trade (see Crespi and Marette, 2001, 2003a,b). Giannakas (2002), Giannakas and Fulton (2002), Fulton and Giannakas (2004) and Zago and Pick (2004) exhibit some market distortions coming from mandatory labeling.

on Nestlé (*BusinessWeek*, 2002).<sup>2</sup> The agribusiness-multinational companies invest a lot in advertising (Sutton, 1992). The existence of economies of scales pushes toward concentration among producers/brands since promotion and advertising (...) imply fixed costs.

Because a brand is hard to set up for small industries or scattered farmers, alternative strategies for promoting high-quality products are necessary. Producers' cooperation (or collusion) may be necessary to signal quality when the fixed costs of advertising and third-party certification are large (Marette et al., 1999; and Marette and Crespi, 2003). The reinforcement of the cooperation among the actors of the supply chain seeks to improve quality that in turn guarantees higher prices.<sup>3</sup> Note that the importance of professional groups and/or common labels varies substantially among sectors and products. This raises two important questions. First, when are brands and/or a collective signal supposed to be selected by farmers/firms? Second, what is the efficiency of a collective organization compared to that of a private brand? The efficiency of labels and professional groups compared to that of a private brand is an open and complex question that and one that this paper will try to address.

Regarding the first question, the emergence of collective signals depends on the cost/premium of the signal and the competitive structure of the market (Marette and Crespi, 2003). If private brands of few firms dominate a market, the role of inter-professional groups and/or labels is likely to be limited or non-existent. Conversely, in a market with numerous producers, professional groups and/or labels are likely to be largely used by producers to promote quality. As effects are hard to predict, some empirical facts may provide a clue. Recently, Boizot-Szantai et al. (2005) showed that common labels are mainly used by brands for the eggs market in France.<sup>4</sup> In Figure 2, consumers' expenditures (in value) are aggregated by Boizot-Szantai et al. (2005) into five categories or segments: Producer Brand with a Label (PBL), Retailer Brand

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<sup>2</sup> Improving product quality is a major issue for large companies, even if the lack of innovation in the food industry is often underscored. As Gapper (2004) states (p. 13), "food and drink companies are mass-market machines, not research-based companies that produce a few niche products. While a pharmaceuticals company allocates 18% of its revenues to research, a food group spends some 3%."

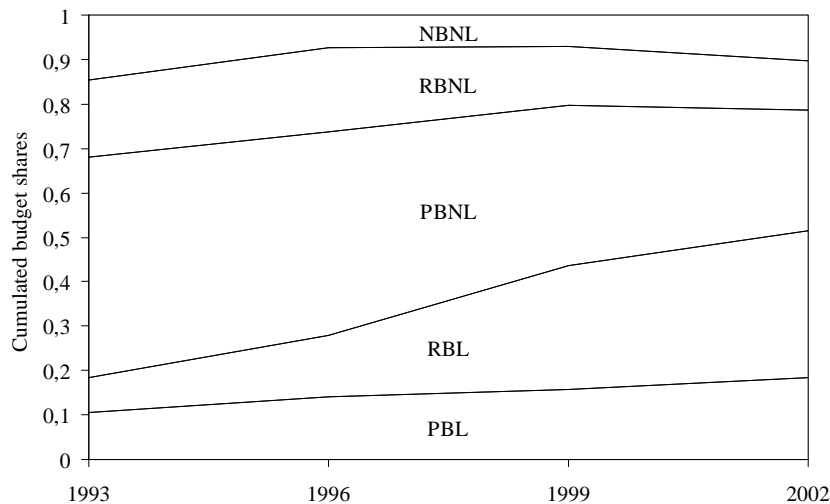
<sup>3</sup> The market competition is supposed to be more intense with  $n$  brands compared to the other types of organization presented in Table 1, since labels and/or professional groups imply a minimum level of coordination that may lead to price/quantity collusion.

<sup>4</sup> The selected characteristics of common labels for eggs are organic, farm (namely, eggs coming from a free-range layer), and open-air characteristics, along with eggs for which the laying date is clearly indicated.

with a Label (RBL), Producer Brand with No Label (PBNL), Retailer Brand with No Label (RBNL), and No Brand No Label (NBNL).

The budget share of eggs with labels increased from less than 20% in 1993 to more than 50% in 2002. This increase mainly comes from the development of retailer brands with labels, which raises the issue of the sharing of the label benefits between retailers and farmers. Prices paid by households are higher for eggs with labels than for eggs without labels, the premium becoming more important over the end of the decade. This simple example suggests that labels matter for market segmentation and competition among brands.

**Figure 2. Budget shares of eggs in France between 1993 and 2002**



Source: Boizot-Szantai et al. 2005.

In this case, common labels complete the brand's reputation for increasing the value added of the product. An open question is the consumers' gain. On one side, more information provides more products diversity, which is good for consumers. On the other side, Perloff (2004) underlines that adding a brand (or signaling a new characteristic by a label) benefits fewer consumers according to the product-differentiation literature due to the risk of product proliferation.

The question of the efficiency of collective signals deserves a thorough attention. This paper now focuses on two types of organizations, namely labels and professional groups, and their respective influences on the quality choices and the market mechanisms. Some empirical examples or cases studies are useful for understanding market mechanisms.

## **Benefits and costs of labels**

Consumers are faced with a plethora of product certification labels concerning safety, nutrition, characteristics, geographic origin, organic status (...), respect for the environment, ethical conditions, or fair trade. As Hornblower (2000) mentions (p. 36) for the United States, “environmental and social concerns are invading the marketplace as never before.” The influence of labels on prices is an imperfect and partial indicator of the label efficiency.

### ***Price premium***

Different types of empirical methodologies (such as experimental economics, hedonic prices) allow us to measure the link between the label and the price premium. Most of the studies show a significant effect on prices or consumers’ willingness to pay, even if the price premium is relatively low. As McCluskey and Loureiro (2003, p. 101) mention, “The major generalization we can draw from [the] group of empirical studies on consumer response to food labeling is that consumer must perceive high eating quality in order for the food product to command a premium. This was particularly important for socially responsible and origin-based products.” Some recent results of the literature are presented next.

Regarding characteristics that reflect aspects of production conditions such as ethical characteristics, animal welfare, or the absence of child labor, studies have generally shown that a “low premium” exists for these products. For instance, premium and market valuation of environmental attributes have been estimated in numerous papers, including Blend and van Ravenswaay (1999), Nimon and Beghin (1999), Teisl et al. (1999), Loureiro et al. (2001) and Larue et al. (2004). These studies show that while very few consumers are ready to pay more than 10% more compared to the price of a standard product, the market niche is a stable one even if it



is small. The conclusions are similar for organic products regarding the small market share, even if Dimitri and Greene (2002) show a relatively large price premium paid by consumers in the United States. Moreover, Offermann and Nieberg (2002) (in Figure 2 of their article) gave evidences of relatively large farmgate price premiums (>20%) of organic products in Europe, but such a result needs to be confirmed by new studies.

Recently, labels for fair trade and fair working conditions in developing countries gained prominence, even if the market share is relatively limited (between 2% and 4% for different products and locations). Table 1 shows a rapid increase in the production volume under the seal provided by Max Havelaar, one leader of fair-trade certification.

**Table 1. World volume of production with the Max Havelaar seal (in tons)**

	2001	2002	2003
Coffee	14 432	15 779	19 872
Tea	1 085	1 226	1 989
Bananas	29 072	36 641	51 336
Cocoa	1 453	1 656	3 473
Sugar	468	650	1 164
Rice	0	392	545

Source: <http://www.maxhavelaar.org>

However, some famous brands only offer a small percentage of their production under the fair trade label.<sup>5</sup> In 2004, only 1% of Starbucks coffee was labeled fair trade, leading to criticisms by some activists about this low volume (Linn, 2004). Starbucks responds that it is already a large purchaser of fair trade coffee but that there isn't enough of that product that meets its standards.

Table 2 exhibits the cost structure of one packet of coffee in France. The final price difference is mainly explained by the farmgate price between both types of coffee, while the costs are similar for other stages presented in Table 2. The "fairness" in this context comes from the difference at the farmgate price equal to 0.39 euros. Such a premium represents 10% of the final price in the supermarket, which is consistent with the literature findings (previously presented).

<sup>5</sup> Recently, eight brands in France signed an agreement with Max Havelaar for offering products made with "fair" cotton (Les Echos, March 4, 2005, p. 18).

**Table 2. Price of a coffee packet in France (250 gr. and Arabica from South America)**

<b>Euros</b>	<b>Without Fair Trade Label</b>	<b>Max Havelaar</b>
Farmgate price	0.19	0.58
Middlemen	0.06	-
Cooperative costs	-	0.08
Exportation costs	0.14	0.14
Max Havelaar fee		0.05
Cost of importation and roasting	1.41 à 2.61	1.45 à 2.5
Final price in supermarket	1.8 à 3	2.3 à 3.35

Source: Lecomte 2003.

Large differences in social conditions/standards in the world explain the demand for ethical characteristics by consumers.<sup>6</sup> The definition of “fairness” is relatively tricky to set up. The Achilles’ heel of ethical labeling is the lack of a clear definition combined with a “lenient” certification process. In this context, the regulation is useful for imposing a clear definition for some labels and/or for controlling the certification activity of private middlemen.

We now turn to the effect of geographical indications on market prices. Indeed, recent papers suggest that geographical indications matter for differentiating products. Loureiro and McCluskey (2000) show that the label of origin for fresh meat in Spain leads to price premia for medium quality. Scarpa et al. (2005) and Whirthgen (2005) confirm the existence of consumer preferences for territorial origin of production certification and regional food. Stefani et al. (2005) show that, in the case of Italian spelt, a direct impact of origin on willingness to pay exists. Roosen et al. (2003) also suggest that consumers place more importance on labels of origin as opposed to private brands for beef, although this study is applied to European consumers facing the mad cow disease, for which regional labels take on a highly significant meaning. Hassan and Monier-Dilhan (2004, 2005) and Boizot-Szantai et al. (2005) show that

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<sup>6</sup> Bigot (2002) examined a variety of attribute signals that might exist in a product and showed that, at least for French consumers, the rank in terms of importance was the absence of child labor, followed by the origin of the products, and decent working conditions for workers who produced the product, positive environmental externalities such as the absence of pollution during the production process (...). Bigot (2002) found that 53% of French consumers would pay a premium for ethical characteristics and this premium would only be 5%. Another 44% would

various official labels or common labels matter to French consumers. Bazoche et al. (2005) show that label information has an effect during an experimental process that compares the consumers' reactions to French and Californian wines. Conversely, Bonnet and Simioni (2001) show that French consumers do not value the quality signal provided by the Protected Designation of Origin for Camembert cheese. In this particular case, brands with large market shares appear to be the relevant signal of quality.

Note that these results concern European markets. Even if geographical indications are used less often in the United States than in Europe, U.S. farmers are also concerned by this tool, for instance with the Arizona Grown label, Idaho Potatoes, Florida Oranges, Vidalia Onions, Wisconsin Real Cheese, and so forth (Hayes and Lence, 2002; Hayes et al., 2004; and McCluskey and Loureiro, 2003).<sup>7</sup> Based on the European experience, the positive effects of labels on prices may attract too many sellers/farmers, leading to a risk of label proliferation.

### ***Labels proliferation***

When no major brands dominate a market, the number of products/appellations with official/common labels is generally relatively large. The meat sector in France is a good example, wherein numerous groups of producers are using the official labels presented in Table 3, while some other common labels (such as *Viande Bovine Française*, *V 100% muscle*, *Agneau de nos Terroirs*, *Race à Viande*, *le Boeuf de Tradition Bouchère*, *le Boeuf Verte Prairie*) were recently developed by some groups of producers or inter-professional groups, mainly for counterbalancing the mad cow disease crises in France. The Certification de conformité produits (CCP) or the Label Rouge (LR) (see Table 3) helped in recovering consumers' trust after mad cow disease outbreaks in 1996 and 2001 (see de Fontguyon, 2001).<sup>8</sup>

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pay no such premium.

<sup>7</sup> Hayes and Lence (2005, p. 1) consider the common labels and geographical indications as “the only market based solution to the U.S. rural development problem that we are aware of.” This paper may offer clues for knowing if labels as geographical indications are viable instruments for rural development in the United States.

<sup>8</sup> Herrmann et al. (2002) exhibit a positive effect coming from the generic promotion of beef linked to the geographical indication “quality from Bavaria”. Enneking (2004) shows that safety labeling significantly influences consumers willingness-to-pay for meat, with a benefit larger for the national brand than for small producers.

For an uninformed public, labels proliferation may provide little relevant information (Lohr, 1998). In a context of labels/appellations proliferation, a good reputation is very hard to acquire because of buyers' confusion and insufficient promotional efforts. The small size (in terms of sales) of each label does not lead to sufficient economies of scale, since promotion mainly generates fixed costs. Consumers are made worse off if the labels increase confusion. Regulators in Europe set up some official signs of quality to reduce label proliferation. Table 3 gives details regarding the official signs. The European Commission and/or governments provide a property right protection and participation in inspection procedures for the signs, and farmers must choose whether or not to adhere to them. In Europe, Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI) link products to their geographic origin, and promote a specific taste or quality linked to a region (see EC Reg. 2081/92 and the EC Reg. 2081/92 (EEC, 1992)).

**Table 3. Official signs of quality in France and Europe**

<b>Europe</b>	<b>France</b>	<b>Characteristic(s)</b>
Protected Designation of Origin (PDO)	Appellation d'origine contrôlée (AOC)	Origin of production and quality
Protected Geographical Indication (PGI)		Origin of production
	Label Rouge (LR)	High quality
	Certification de conformité produits (CCP)	Respect of some specific criteria or processes above the standard product
Organic Farming (OF)	Agriculture Biologique (AB)	Absence of chemical pesticides or fertilizers
Traditional Speciality Guaranteed		Guarantee of a traditional character of a product

Source: Ministère de l'Agriculture, Paris, 2005.

For describing the effect of voluntary labels, the focus here is mainly on the French market, where official signs are widely used by producers for the promotion of some specific products. Based on a hedonic approach, Hassan and Monier-Dilhan (2004 and 2005) exhibit a

significant price premium for French official labels such as Label Rouge, an organic appellation, or geographical indications, with a higher premium for retailer brands than for producer brands. However, Loisel and Couvreur (2001) show that even in France such signals of quality are not clear to many consumers. For example, the recognition of quality labels by French consumers is only 43% for Label Rouge (LR), 18% for l'Agriculture Biologique (AB), and only 12% for Appellations d'Origine Contrôlée (AOC). Although LR is a well-established label, which suggests that reputation matters, the fact that less than half of French consumers recognize it is suggestive of the problems inherent for any label. For instance, the low recognition may explain why organic farming only accounts for a small share of production (less than 2%) in Europe (see Offermann and Nieberg, 2002). One major problem is simply the legibility and clarity of a label, especially one showing some official seal.

For some labels, such as LR, AOC, or PGI, production is regulated, with a maximum yield allowed per unit of land. The link between regulations based on stringent conditions of production and quality is shaky. For instance, the Conseil de la Concurrence (see the decision 98-D-54 (July 1998)) mentions that “the assertion about the necessary relationship between production increase and quality decrease is not proved.” The “blurred” frontier between quality regulation and quantity controls implies risk of anti-trust behaviors (Buccirossi et al., 2002). Labeling in agriculture has led to antitrust investigations for well-known products with official labels at the national level (Esposito, 1999). In France, one case concerning poultry and four cases concerning cheese were investigated.<sup>9</sup> In Italy, two cases concerning cheese and one case concerning ham were examined.<sup>10</sup> Generally, for all these cases, the contested practices included price fixing (or minimum resale prices), output reduction or quotas, and limits to entry (for details see Table 2 in Lucatelli, 2000). Those practices were recognized as infringements of national competition laws (and prohibited) because they imposed restrictions that were not necessary for the production and promotion of high-quality products. Those cases were decided without making any allowance for the fact that they involved agricultural products.

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<sup>9</sup> See the Conseil de la Concurrence (Paris), decisions 92-D-30 (April 1992), 94-D-41 (July 1994), 97-D-16 (March 1997), 98-D-54 (July 1998), 04-D-13 (April 2004).

<sup>10</sup> See Autorita Garante della Concorenzza e del Mercato (Rome) decisions 3999(July 1996), 4352 (October 1996), 6549 (November 1998).

Two short case studies, reviewed next, illustrate the success and failure of official labels in Europe.

### ***Label Rouge***

The Label Rouge (LR) dates back to 1960 and was initially developed for the poultry sector. The concentration of this sector in France is relatively low, with a CR4 lower than 25%, despite a strong consolidation over the last decade. As mentioned above, the recognition of LR by French consumers is 43% (Loisel and Couvreur, 2001). Clearly, the LR has a reputation for quality, since in 2004, the average price was 6.06 euros/kg for an LR chicken versus 2.48 euros/kg for the cheapest chicken on the shelf.<sup>11</sup> As Table 4 shows, LR combines a good reputation with a relatively large market share for some products (Westgren, 1999).

**Table 4. Market share of some products under Label Rouge (LR) in France**

<b>Products with LR</b>	<b>Poultry</b>	<b>Cooked Ham</b>	<b>Beef and Lamb</b>
Market Share	34%	39%	1%

Source: Author compilations and <http://www.label-rouge.org/> (accessed June 2005).

Table 5 shows that LR is mainly given to products with geographical indications or PGI (defined in table 3). In other words, LR allows local farmers to develop typical/territorial products by benefiting from the LR national reputation. Compared to the Appellations of Origin (AO) system, the origin-based products are mixed to high eating quality under the LR.<sup>12</sup>

<sup>11</sup> See [http://www.lineaires.com/aff\\_media.php?id=9760](http://www.lineaires.com/aff_media.php?id=9760) (accessed April 2005).

<sup>12</sup> In a context in which Brazil gains market share with numerous relocations from Europe to Brazil, the LR could preserve one part of the French poultry production for a high-quality segment. Note that it is difficult to know if trade liberalization in the poultry sector will favor common labels or private brands.

**Table 5. The number of products with a Label Rouge stamp**

Product	Stamps with Geographical Information	Stamps with PGI	Stamps/Brands without Geographic Information	Total
Fresh Hog	5	3	0	8
Cooked Ham	0	0	2	2
Cooked Pork	3	1	2	6
Salted Pork	2	2	2	6
Lamb	4	2	0	6
Beef	9	5	1	15
Poultry	5	12	1	18
Eggs	1	0	3	4
Butter/cheese	2	2	3	7
Fish	5	0	3	8
Fruits/vegetables	6	4	1	11
Processed food	0	1	4	5

Source: Author compilations and <http://www.label-rouge.org/> (accessed June 2005).

The LR system is flexible enough to allow national brands to use it. One interesting example is cooked ham. Concentration is relatively low in the cooked ham market, with a CR3 equal to 24.5%. A dozen national and local producers/brands of cooked ham post the LR on their products. The LR allows these brands to gain market share, since the overall market share of cooked ham with LR is 39% (Table 4). In other words, for this specific case, the LR is a complement to private brands.

The premium coming from other official labels presented in Table 3 is generally much lower than the premium for the LR. The next example illustrates the limits of the official-labels system.

### ***The wine market and the Appellations of Origin crisis in Europe***

The protection of Appellations of Origin (AO) dates back to 1935, when the Appellations d'Origine Contrôlées (AOC) were created for wine in France. Today, AOC is used by 40% of the wines and 15% of the cheeses produced in France. The AO system is harmonized at national

and/or European levels (see Table 2). The efficiency of this system is hard to evaluate. As Clemens (2005, p. 8) notes, “One measure of the success of these investments is the approximately 700 geographical indications (excluding wines and spirits) currently registered in the European Union and the continuous stream of applications to register more products.” However, the following example regarding wine mitigates this idea of “success.” New international competition has significantly changed the world market, which underlines the fragility of the AO. For 15 years, wine producers from Australia, California, and Chile (...) have contested European leadership in world markets and European countries lost world market share (*Economist*, 1999a,b).

Globalization and trade liberalization lead to new contexts of competition that modify signaling and promotion strategies. As effects are hard to predict, some theoretical conjectures are useful for understanding market mechanisms. Opening the domestic market to imports from other countries may result in an increase in domestic welfare, even in the absence of comparative advantage in production cost. The reason is that potential competition increases the incentive for the domestic producer to differentiate itself by acquiring more information and disclosing it to the consumer. Competition incites the producer to test its products and signal its quality. However, when the detection/advertising cost is high (and a fixed cost), trade liberalization may result in a potential decrease in domestic welfare since the signal of its high quality by the domestic producer is made costlier by the competition from the importer. This simple conjecture shows the complexity of the market’s effects.

The wine sector in the European Union is based on the AO for medium- and high-quality wines, where grape production is regulated, with a maximum yield allowed per unit of land. This yield system, which is often disconnected from market demand, does not impede excess supply in some areas, as for the Beaujolais area in France in 2005 (Bombaron, 2005). The maximum yield imposed on AO farmers may impede farmers to reach the minimum-efficient scale. Benitez et al. (2005) compare the cost structure of AO producers with non-AO producers for the production of French Brie cheese. They exhibit that AO producers face a more costly production technology and do not profit from scale economies. Some European AO impose numerous restrictions that stifle the search for commercial efficiency. The excess of regulation for linking origin and quality seems problematic (see Zago and Pick, 2004, and Ribaut, 2005). Conversely,



the main features of regulations in the United States, Chile, and Australia are the lack of detailed rules, that is, the freedom to experiment with new techniques; the production and marketing of wines according to single varieties of grapes, sometimes associated with the production region; and a very intense use of marketing investments. All of these features appear to be quite relevant in the world market.

Wineries in Australia are much bigger than the ones in Europe. The average vineyard size in France is less than 2 hectares versus 111 hectares in Australia. Four firms are dominating the Australian market, namely, Foster, Southcorp, Hardy, and Orlando Wyndham. The combined production share of the four largest firms in New Zealand is 85%, while the combined production share of the two largest firms in South Africa is 80%.<sup>13</sup> Unlike the industry in Australia or Chile, the wine industry in Europe is very fragmented. The opportunities for mergers in Europe are limited by ownership structures with scattered producers, geographic boundaries, and/or product diversity. Indeed, apart from some notable exceptions, e.g., the Champagne (*Economist*, 2003) or Bordeaux regions, the wine industry in Europe is made up of many small firms, which may lack adequate capital for the necessary investments in new technologies and marketing policies.

The small size of wineries in Europe reinforces the problem of the proliferation of appellations (Marette and Zago, 2003). Peri and Gaeta (1999) count more than 400 official appellations in the wine sector in Italy, 450 AOC in France, and 1,397 in the wine sector in Europe. Such profusion assures product diversity but certainly increases buyer confusion (see *Consumer Reports*, 1997). The recognition of quality labels by French consumers is only 12% for Appellations d'Origine Contrôlée, the French AO system (see Loisel and Couvreur, 2001). Recently, Berthomeau (2002) discusses the difficulty that the various French appellations have had in entering new export markets because of the absence of any clear specification of the label that distinguishes one appellation from another in consumers' minds. The collective reputation of French wines plummeted during the last decade (Conan, 2005; Echikson, 2005; and Ribaut, 2005). The inter-professional group of Bordeaux producers (CIVB, Conseil Interprofessionnel

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<sup>13</sup> Recent international mergers revamped international wine trading (Marsh, 2003a,b). In 2000, Foster merged with Beringer, a Californian wine firm. In 2003, Hardy merged with Constellation Brands, a U.S. company. As Marsh (2003b) puts it, those mergers undermined Europe's dominance of the sector.

des vins de Bordeaux) completely revamped its generic advertising campaign for reaching consumers of different countries in order to restore its collective reputation (Germain, 2005).

In addition, in Europe, wineries may be consolidated and/or the French AO system may be strongly reformed (Giraud-Heraud et al., 2002 and Ribaut, 2005). Indeed, the Champagne appellation is an example in which the combination of famous brands (with large vineyard size and enough capital for advertising) and a prestigious AO matters for consumers ready to pay a large premium (see Combris et al., 2003). An “efficient” combination of brands and AO also characterizes the Napa Valley appellation, which generates a price premium compared to an equivalent-quality bottle with a different appellation (Bombrun and Sumner, 2003). A possible solution for improving the European AO system would consist in simplifying the AO rules, by associating brands with a production region such as Bordeaux or Chianti. Simplified rules would not impede the brand/wineries consolidation that is necessary to improve quality.

Eventually, geographical indications raise the issue of the compatibility of the AO with the TRIPS agreement (Trade-Related Aspects of Intellectual Property Rights). Geographical indications signaling a particular quality are protected under articles 22 to 24 of the TRIPS agreement. If a quality dimension is recognized for a product coming from a single area, no producer external to this area is allowed to mimic the indication. Some tensions about the definitions of geographical indications between Europe and the United States (Babcock and Clemens, 2004) led to a recent panel on geographical indications (WTO, 2005). The panel suggested that some points of the EC regulation 2081/92 regarding the role of governments has to be amended, while the panel recognizes that some articles of the TRIPS Agreement was not violated by the EC regulation 2081/92 (see Clemens, 2005, for details). More generally, the issue of AO regarding international trade may be overstated, since the previous example underscores the fragility of the AO system for wine coming from the recent changes in the world wine market.

All the previous results suggest that common labels matter to consumers and explain the price differentiation. The mechanisms are complex and market specific. The assessment of common labels or geographical indications is uneven. The positive effect is the existence of price premiums for common labels for numerous food products, as previously demonstrated. However,

the main drawbacks are the labels' proliferation and the consumers' confusion, which limits the efficiency of such a system for signaling quality. Label proliferation may create confusion for consumers, so that the main role for a regulator consists of (1) impeding false information linked to a label (Browne et al., 2000), (2) defining a sufficient level of effort and/or a quality standard corresponding to a label, especially one showing some official seal (Table 3), and (3) insuring the credibility of the certification (Crespi and Marette, 2003b). The quality policy of professional groups is the focus of the next section.

### **Professional groups**

Professional groups aim at improving the quality of products through research and development, advertising, and/or economic studies. The decisions of a professional group become compulsory for all members of the supply chain. Professional groups operate at the national and local levels.

U.S. marketing orders are industry groups that mandate compliance for 100% of the producers in a particular industry and are headed by board members elected from that industry (see Crespi and Sexton, 2003). The mandatory nature of marketing orders facilitates agreement on the issues. Crespi and Sexton (2003) recently reviewed the performance of marketing orders, but there is a dearth of work investigating the influence of marketing orders in the context of quality differences among products. Indeed, there are possible tensions among farmers with differentiated products, since marketing orders attempt to market all products through generic advertising presenting products as "similar," in an atmosphere where producers seek to add value through greater differentiation of their own goods from those of their competitors. Notably, there are complaints by some producers who seek to differentiate their goods yet must contribute funds to programs that promote generic commodities. Product differentiation and concentration may limit the possibility of reaching agreements for collective promotion (see Crespi and Marette, 2003c).

The structure of marketing orders is very close to that of some European inter-professional groups. Even if the inter-professional groups are recognized at the E.U. level by the EC Regulations 2200/96 and 2201/96, this form of organization was mainly developed in France.

The French law of July 10, 1975 (revised by the law of July 9, 1999) authorized professionals to create an inter-professional group. The agreements are elaborated by the inter-professional association and are submitted to the state, which grants authorization to “extend” the agreement. Thus, the decisions of the board can become compulsory for all members of the supply chain. Indeed, these agreements aim to finance the inter-professional association, regulate the market, and improve the quality of the products through research and development, advertising, or economic studies (...).

As Nefussi and Rio (2001) and Valceschini (2002) emphasize, there is a diversity of organizations/decision types among the inter-professional groups for regulating the supply chain. Valceschini (2002) mentions some limits for regulating a supply chain through an inter-professional group. In particular, the collective quality management is a limited tool for alleviating crises linked to excess supply. Antitrust regulation impedes quantity/price controls inside an inter-professional group. The only way to avoid crises of excess supply is consolidation/mergers among farmers/brands.

**Table 6. Some of the national inter-professional groups in France**

<b>Inter-professional group</b>	<b>Sector</b>
INTERBEV (Association Nationale Interprofessionnelle du Bétail et des Viandes)	Meat
INTERFEL (Interprofession de la filière des Fruits et Légumes Frais)	Fresh Fruits and vegetables
ANIFELT (Association Nationale Interprofessionnelle des Fruits et Légumes Transformés)	Processed and Canned Fruit and Vegetables

Source: <http://www.interbev.asso.fr>; <http://www.interfel.com>, <http://www.anifelt.com/>.

Collective-quality programs matter in attracting consumers. For instance, INTERBEV was very active in quality policy and promotion during the mad cow disease crisis in 2001-2002, allowing the recovery of consumers’ trust. The case of potatoes in France, reviewed next, demonstrates the importance of product differentiation.

### *The potato example*

An analysis of the “ware” potato sector is particularly interesting because this sector has experimented with the development of new varieties (see Marette and Nefussi, 2003). Indeed, until the end of the 1980s, the potato sector was essentially characterized by relatively homogenous and low-quality production. Under the impetus of inter-professional groups, this sector underwent profound changes at the beginning of the 1990s with the production of new varieties of potatoes, providing new varieties to consumers.

Until the end of the 1980s, potatoes seemed to be a homogenous and basic commodity and were little differentiated in spite of the existence of several varieties. At the time, the supply chain was characterized by the production of essentially one variety of potato (the Bintje), which represented approximately 70% of the market share until 1990 (see Figure 3). In France, the consumption of potatoes per capita dropped continuously between 1950 and 1990. During the 1980s, the supply chain experienced several economic crises because of overproduction, causing prices to drop dramatically (Boucher, 1985). In the face of these crises, interventions were aimed at limiting supply. But the failure of interventions to stop the collapse of prices led different actors in the supply chain to change dramatically the modes of production, the inter-sector organization, and the type of intervention in the market. The inter-professional group CNIPT was officially recognized on July 27, 1977. This inter-professional association is private but it is granted powers by the state. These agreements are elaborated by the inter-professional association and are submitted to the Ministry of Agriculture and the Ministry of Economy and Finance who grant authorization to “extend” the agreement.<sup>14</sup>

The CNIPT has promoted the renewed viability of the domestic potato market since 1990 in part through the introduction and marketing of new varieties. The “fresh products” orientation chosen for potatoes created the possibility of a segmentation of the market for new varieties of potatoes (Pouzin, 1990). A real process of differentiation modified the structure of the market

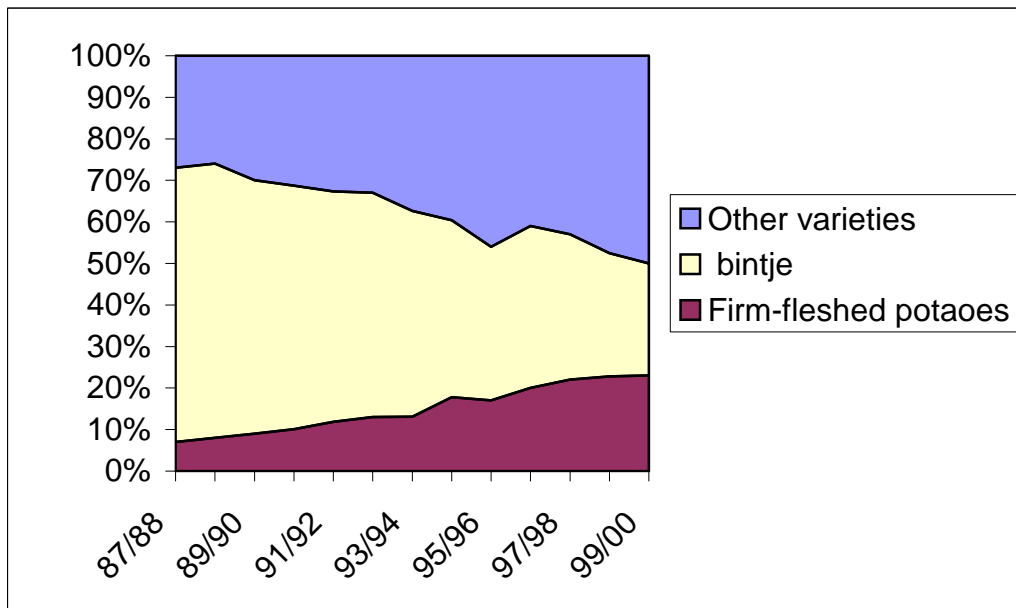
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<sup>14</sup> Thus, the decisions of the CNIPT become compulsory for all members of the supply chain. The anti-trust regulation limited the CNIPT’s freedom of intervention. The Competition Council twice imposed sanctions on the CNIPT for certain practices enacted to supply restrictions. One decision by the Competition Council (94-D-54) on October 25, 1994, resulted in the CNIPT and some groups being sanctioned for opposing some operations undertaken in 1988 by supermarkets to promote Bintje potatoes. The Competition Council noted that “the defense of their members’ interests does not authorize professional organizations to resort to practices with the purpose of

(Estrade, 1990). Figure 3 shows that the segmentation of the market occurred at the detriment of the Bintje variety and for the benefit of firm-fleshed varieties (“Charlotte” or “Roseval” for example) and the “other varieties” categories.

Indeed, the prices for the new segments of “firm-fleshed” potatoes and “other varieties” are higher than those for the Bintje. In particular, the prices of the firm-fleshed potatoes are at least two- to threefold higher than the prices of the Bintje. Consumers have substituted the Bintje (suitable for frying for example) for varieties suitable to new modes of cooking (steam, oven) or consumption (salads). In 2002, the Bintje potato only had a 12% market share of the retail market.

**Figure 3: The market share of the three main types of potatoes in France**



Source: Marette and Nefussi (2003) and SECODIP-CNIPT.

This evolution of the market is the result of a double action: the action carried out by the CNIPT and the action of the enterprises at the different stages of the “ware potato” supply chain. Market regulation takes the following form: (a) quality improvement at all stages of the chain, in particular through the commercialization of washed products; (b) segmentation of the market by highlighting the relation between the variety and its culinary use, in order to make the product

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imposing a minimum selling price.”

more appealing; and (c) generic communication on the diversity and benefits (in particular the nutritional benefits) of potatoes. Moreover, certain farms have been radically transformed by becoming commercial enterprises in their own right, carrying out the sorting, packaging, and quality control themselves (Gosselin, 2003). All these practices represent high fixed costs that are only covered if the enterprise realizes high profits and important turnovers. The number of producers dropped from 278,000 in 1995 to 90,000 in 1993. Thus, the implementation of an inter-professional quality policy has been accompanied by a movement of concentration of farms. The action of the CNIPT was essential to facilitate the emergence of new varieties of potatoes that are more remunerative for producers and more innovative for consumers in terms of variety and culinary uses.

The potato program sought to increase value by differentiating products from one another. Even though this example is specific to one product (and not directly applicable to other fruit and vegetable supply chains), it shows that innovation is crucial to ensure remunerative prices.<sup>15</sup>

## Conclusion

This paper introduced some economic effects linked to different types of programs used for promoting quality. All the results reviewed here suggest that labels/professional groups often matter to consumers and partially explain the price differentiation. The positive effect is the existence of price premiums coming from collective programs for numerous food products as demonstrated in the examples. This paper showed that in some cases the collective-quality promotion can be a successful strategy for firms/farmers.

The main drawbacks are the labels' proliferation and the consumers' confusion, which limits the efficiency of such a collective system for signaling quality. Clearly, conditions for the success of collective-quality promotion are the absence of signals proliferation and the absence of excess regulation that may impede the existence of economies of scale, brand reputation and

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<sup>15</sup> The other producer groups presented in Table 6 encounter difficulties in impeding an excess supply crisis. Thus, *le Monde (Farmers' trade unions' call for mobilization)* of May 22, 2003, noted that "All the trade unions draw attention to the fact that crises in the poultry, pork, fruit and vegetables, wine and milk sectors of agriculture are multiplying."

product differentiation. The paper also showed that these collective programs are not incompatible with the development of private brands. The analysis of the optimal combination of private brands with collective-quality promotion needs to be refined by new studies.



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