RESEARCH IN ECONOMICS AND RURAL SOCIOLOGY

Public quality labels: results of a public policy

Public quality labels represent an important device in French agricultural policy. First intended for farmers to whom they brought a way to ease off cost-related competition, their scope of application has been progressively extended to the whole range of agrifood products. They are frequently associated with well-known private brands and more recently to stores' own brands.
Beyond its technical aspects - homogenization and quality labelling -, this quality policy also represents a policy of development and occupation of the rural area. What are the consequences on the promotion of products in comparison with standard products? What kind of redistribution does it allow upstream, towards agricultural producers who are the first recipients? The purpose of this paper is to present a few research results on these two matters.

Public quality labels (PQL), the creation of which dates back to 1935 (product denomination of origin - PDO - for viniculture) constitute, like the 1962 Agricultural guidance laws, one of the French agricultural policy provisions. In both cases, it is a matter of helping a scattered agricultural supply fit to the market. What agricultural guidance laws did for production by promoting the creation of producers' associations, official quality labels tried to do for quality. The purpose is to homogenize and at the same time emphasize quality. Homogenization is carried out thanks to specifications guaranteeing minimum quality and distinctiveness. This labelling is first intended for producers who, even collectively, do not have the means to invest into the costly strategies of private labelling.

The scope of public quality labels progressively extended to the whole range of agrifood products and a similar provision was implemented at the European level (1992). Furthermore, this agricultural policy tool became an agrifood tool. Thus, public quality labels are frequently associated with famous private brands and more recently with stores' own brands.

Beyond its technical aspects - homogenization and quality labelling - this quality policy aims at helping poorly equipped farms to remain in activity (small farms, tough areas): therefore, it is also a policy of development and occupation of rural areas. This dimension is well understood by the farmers concerned, who see in the support of public quality labels the means of easing off cost-related competition. For example, cheese areas are often mountainous areas (Comté, blue-veined cheeses, Saint Nectaire…) where production costs are high. The same goes for orchard farms under public quality labels (PDO, PGI, Red Label, and Bio label) which are generally of small size (Hassan, Monier-Dilhan, Réquillart, 2004). Two conditions are necessary to reach that target. First, the market must give benefit to PQL products against standard

products. Second, the additional value given to PQL chains must be redistributed upstream, towards producers. What actually happens?

Often positive willingness-to-pay for public quality labels but there are counter-examples, too…

A survey on six products sold under public quality labels (Hassan, Monier-Dilhan, 2005) shows that these labels usually enjoy a positive willingness-to-pay from consumers. All public quality labels are represented[1] : Bio label, PDO, PGI, Red Label, and each product is produced under and out of the public quality label. Quality varies according to other attributes like the type of brand under which the product is sold: national brand (NB), stores' own brand (SB), first price or outlet (Hypermarket, Supermarket, Mini-market).

At all events, the labelled product market share is weak, never higher than 11% (in 2000 and in supermarkets). We assess willingness-to-pay through the hedonic price model (see methodological frame). This model consists of decomposing the market price of each product into the sum of the concealed prices of its different attributes. Data are relative to purchasing acts (prices and qualities) from "Secodip", a French consumer panel.

As a whole, willingness-to-pay for public quality labels is not insignificant. For instance, for camembert, the PDO implicit price (1.68 €/kg) is close to the additional price that consumers agree to pay for a national brand instead of a "first price" brand (2.20 kg/€). Naturally, this profit may reflect as much the additional costs linked to the respect of specificities as the public quality label's capacity to capture surplus. This indeterminacy is a characteristic of

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[1] Except for the Certificate of Product Conformity which constitutes an internal label of the chain

the hedonic modelling: unless the assumption is very restrictive, the model does not show whether estimated prices reflect supply (costs) or demand (willingness-to-pay) characteristics or both.

In the case of public quality labels, the existence of a positive remuneration is not always verified (Hassan, Monier, 2002). So, for blue-veined cheeses (cow's milk), PDO does not raise any special willingness-to-pay: its implicit price is non-existent. On the contrary, non-PDO producers, who freed themselves from traditional standards, developed products adapted to current tastes. The brands on which they relied are well-known (bleu de Bresse, Saint-Agur) and raise high willingness-to-pay. To explain the poor results of the "blue" PDO, we may put forward several assumptions: excessively large production areas and weak producers' coordination leading to a competitive situation, poor quality of certain products and competition with Roquefort as for the image of the country product. Graph 1 represents the price curve of different products and the willingness-to-pay for PDO in blue-veined cheese and Roquefort in national brands (NB) and stores' own brands (SB).

Unpasteurized Camembert: willingness-to-pay for PDO varies according to consumers

Hedonic prices measure willingness-to-pay, at market equilibrium, giving no information on the size of the demand, or the way it varies according to prices. This sort of information may be obtained from other statistical models, discrete choice models (with multinomial logit) in particular. A consumer choice analysis between products with or without PDO and sold under national brands or stores' own brands, on the Camembert market, shows that a minority of consumers are willing to select the product under PDO, even if PDO and non-PDO products are sold at the same price (Bonnet, Simioni, 2001).

This survey illustrates a second difficulty of the PDO, which is not linked to price differentials but to changes in preferences. One proportion of the consumers is less attached to traditional products and is in line with "modern" manufacturing. In the camembert example, a minority chose unpasteurized milk in comparison with pasteurized milk. The willingness-to-pay for PDO varies according to certain consumers' socio-economic characteristics. It increases with income and age, showing two trends: one favourable to PDO since the income improvement is of benefit to it, the other one which is unfavourable since the preference for the product is lower in the young generation.

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The analysis of the consumer's willingness-to-pay for public quality labels is not sufficient to foresee the capacity of chains, under public quality labels, to reach their economic targets. Even if its aptitude is most of the time positive, it is necessary for the management of the chain to allow transfer of a part of the surplus upstream. The survey on the PDO chains of Chasselas de Moissac and Comté helps address these problems of distribution.

The Chasselas de Moissac PDO: its reputation gives it a place in hypermarkets and supermarkets, in spite of low margins

The Chasselas de Moissac PDO provides a good example of the difficulties faced by some PDO. This produce, a luxury product with a long tradition, heavy on labour force, family labour in the past and at almost nil opportunity cost but salaried labour today, has shown a strong rise in cost price. Faced with Italian grapes, its cultivated areas have been divided by three since 1970. The PDO has the following choice: release certain expensive constraints at the risk of standardizing the product or maintain and even reinforce the traditional aspects by accepting to occupy only a marginal niche.

We apply the hedonic price model to table-grape market by distinguishing two stages:[2] production/dispatching and retail. Supermarkets and hypermarkets (Hassan, Monier-Dilhan, 2003) represent the retail stage: the price differential between these two chain levels integrates the running costs of central buying services. The analysis of the traditional production/wholesalers/retailers distribution-network provides further light. However, in this case, for lack of data on small retailers, we can only take into account the first two links - production and wholesaling.

From a methodological point of view, the hedonic model iteration brings an answer to the question of indeterminacy relating to what hedonic prices reflect: supply and/or demand, costs and/or surplus. At the production stage, price differentials of table-grape attributes mainly render production cost variances: efficiency variance between Italia, Chasselas and Muscat, costs linked to organic farming, costs linked to the observation of PDO specifications. At the retail stage, grape production costs vary little according to different product characteristics. The margins on these characteristics reflect retailers' willingness-to-pay instead. The PDO attribute is costly: its implicit price is itself equivalent to the price of the grape product of average quality taken as a reference good (0.60 €/kg) and the margin made downstream (traditional wholesalers, central buying services/hypermarkets, Supermarkets) on the PDO is negative (see graph 2 and its more detailed annotation). Weakly negative for traditional wholesalers who compensate the loss by setting a strong margin on the Extra attribute generally associated with PDO. Strongly negative for the retail industry where products ranking in categories I or Extra are not indicated to consumers.

Chasselas PDO is a top-of-the-range product on which retail industry grants lower margins because its presence on the shelves is important. In so doing, labels modify the value distribution between the two stages of the chain towards agricultural upstream. Needed to finance product-manufacturing costs, this transfer concerns low quantities.

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[2] Production prices are settled at the dispatching stage. Transactions at the production stage are no more representative. In the cooperative system which governs more than half the fruit chain, production and dispatching are vertically integrated.

Comté PDO: an economic success linked to the management of a chain

Unlike Chasselas de Moissac, the market-share of which has declined and which is no more than a niche product, Comté saw its market-share increase. Today, the supply of Comté represents almost half that of block Emmental[3] and should keep on increasing with an income rise (the income elasticity of Comté assessed over the period of 1998-2003 is 1.66 against 0.86 for Emmental, source: Desquilbet and al., 2006). In volume as in value, it is France's top PDO cheese production. However, this demand is price-elastic: Comté price elasticity is higher than that of other hard cheeses. This is consistent with the fact that today it has become a mass product. The willingness-to-pay for Comté specificity, assessed by retail price difference in comparison with Emmental, its main industrial competitor for hard cheeses, is high: 40% of the Emmental price. The chain is managed in a centralized and inter-professional way, allowing control over the increase in production. Thanks to this mechanism, milk price remains at a higher level than that of standard milk (+ 20%), allowing producers to compensate for additional production costs (mountain farming). This functioning contributes towards the maintenance of farm employment and the occupation of rural areas in these difficult zones.

Conclusion

This presentation is an opportunity to outline public quality label economics, at least in a certain number of fields. Wines, where PDO is dominant in quality production but where other questions arise, and "Red Label" chicken, one of the successes of Public Quality Labels, are missing. The reputation of these products is good but their manufacturing costs as well as changes in consumers' preferences often limit their dissemination.

Moreover, public quality label producers, like any producer of differentiated goods, are confronted with mechanisms which attempt to bring down incomes, in order to bring prices back to a just sufficient level to cover the additional costs linked to the production of this quality good. To counter this erosion in incomes, professional organizations managing PDOs resort to different measures. They may modify the goods' characteristics. This explains the rather frequent modifications of some PDO specifications to strengthen their specificities (differentiation compared to other goods) but also to restrict the production area and the quantities potentially produced under PDO. The good command of quantities is also an element, which helps keep up PDO goods' prices, all the more since PDO has gained a specific character with consumers. Nevertheless, unlike a private firm, which can freely choose the quantity of a marketed good, a joint-trade organization, with regard to competition policy, cannot do so. This explains why a certain number of joint-trader organizations in charge of PDO and in accordance with public authorities set up rules restricting new producers' access to PDO and controlling production development. Lastly, these agreements constitute a compromise in the implementation of two public policies, one towards farm producers and the other towards consumers. Moreover, in the case of food products, the large number of products considerably limits the negative effects that some production restrictions may have on certain chain.

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3 Today, 60% of Emmental production is sold in the form of grated cheese.

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For further information

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Methodological frame

The hedonic price model is often used in Economics of quality. It is based on the idea, phrased by Lancaster, that consumer demand is not aimed at the product itself but at its characteristics or at the quality attributes it contains and which, considered separately, have no market price. For instance for a piece of fruit, the content of sugar, level (degree) of firmness, the geographical origin, the category, a quality label, etc. The hedonic price model allows determination of shadow prices. Under certain conditions, the shadow price can be interpreted as measuring the marginal use of a complementary unit of this attribute for the consumer. Hedonic prices are additional: so, to determine the price of a good, we must add up the prices of all the attributes forming the good.

The discrete choice models help explain the consumers' choice from among a set of alternatives. For instance, these options may consist of a set of brands. That choice is explained on the one hand by characteristics due to the alternative: the price of the good, its different characteristics (PDO or not, product content, for example sugar content for fruit), and on the other hand by characteristics linked to the consumer: age, income, education. This modelling also allows determination of the average willingness-to-pay for a given attribute (PDO, for instance). The discrete choice models with *multinomial logit* allow determination of this parameter's statistical distribution (average and standard deviation). It is on the basis of that distribution that we estimate the demand curve for a given attribute.

The Sécodip panel brings together 8000 households which made a daily record of their purchases of a great number of food products. For each purchase, the panel enquires as to the date, place (category of retailer), brand, presence or absence of quality labelling, whether there has been an offer from which the purchaser might have benefited and the price, as well as many other parameters concerning the type of product (such as packaging, size of packs, etc.).

Table 1: Hedonic prices for the attributes of six goods under PQL

| Products	*Yoghurt*	*Eggs*	*Milk*	*Camembert*	*Cured ham*	*Dried ham*
Quality label	**Bio Label**	**Bio Label**	**Bio Label**	**PDO**	**Red Label**	**PGI**
Market shares (%)						
Product under PDO	1	5	2	11	8.5	6.5
Standard product	99	95	98	89	91.5	93.5
Implicit prices (€/unit)						
Goods of reference [1]	1.17	0.12	*0.48*	3.76	6.95	14.80
Public quality Label	**0.47**	**0.06**	**0.44**	**1.68**	**2.15**	**2.42**
National Brand	0.65	0.05	0.03	2.20	5.77	7.70

(1) « First Price » brand, without Public Quality Label

Graph 1: Willingness-to-pay for blue-veined cheeses: Good of reference, Brand (NB or SB), PDO (€/kg) *
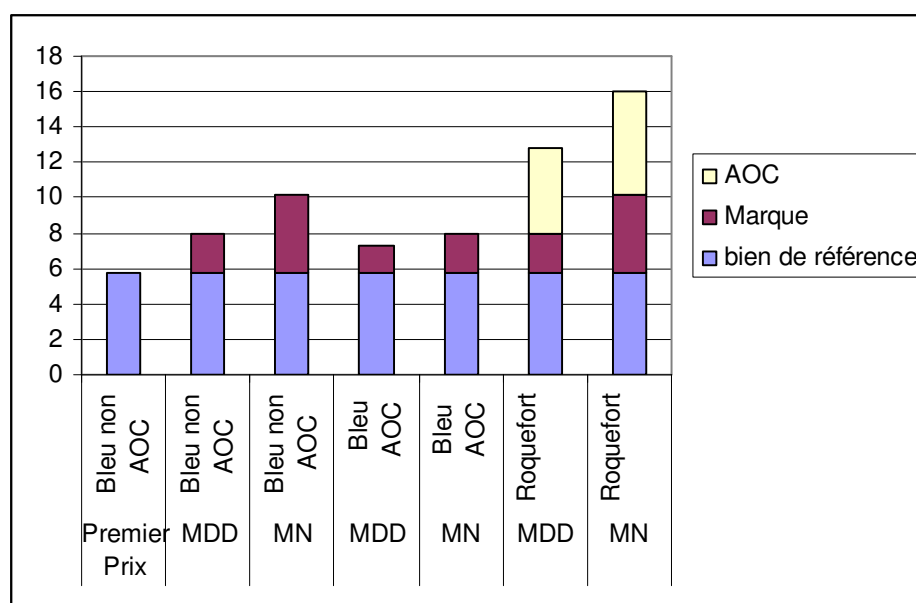
* AOC=PDO, Marque=National Brand, Bien de Reference=Reference Good, Premier Prix=Generic, MDD=Store Brand

Graph 2: Margins on attribute's implicit prices *
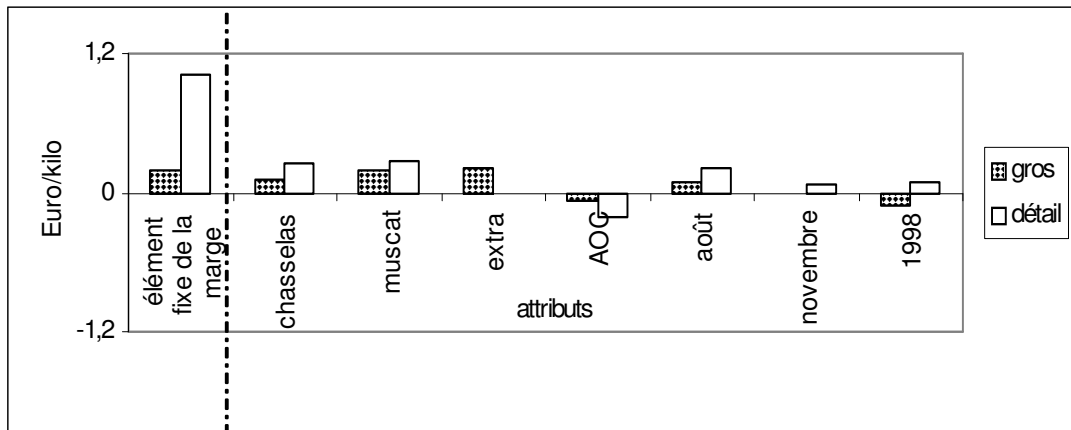
*Gros=wholesalers, Détail=Retailers, Element fixe de la marge=fixed elements of the margin

Annotations on the willingness-to-pay in the PDO Chasselas chain

Graph 2 displays the calculations of the production margins made downstream on the main attributes of table grapes (that is to say, on the one hand in the retail industry and on the other hand in traditional wholesaling): varieties, Extra category, selling time, year. The listed good is a grape of variety A. Lavallée, category 1, non PDO, sold in September, in 1999. On the left of the vertical dotted line on the graph, the "fixed elements of the margin" show the margins made in each of the two distribution channels for that listed good. The fixed margin is clearly stronger in the retail industry than it is in traditional wholesaling. One of the reasons for this deviation is that in this calculation, we integrate the running costs of the central purchasing departments.

To calculate the margin made on a given good, we aggregate to this margin the attributes that characterize the good. In this way, we obtain the margin made on a PDO Chasselas, in the retail industry, by adding the Chasselas attribute margin to the fixed margin, and the negative one to the PDO attribute.

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